Public Health Environmental Surveillance Open Data Model (PHES-ODM) Documentation

Version 2.0 RC2

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Background - Environmental Surveillance and the ODM

Awareness of threats to public health is important for the function of modern health care systems, and environmental surveillance is presenting itself as very cost effective way to monitor for these threats. While environmental surveillance methods, like wastewater surveillance, are not entirely new, they certainly experienced an unprecedented expansion of uptake over the course of the covid-19 pandemic.

Early on in the pandemic, the urgency with which new information was required meant that wastewater monitoring programs in particular were started quickly. This was true globally, with data often being collected in desktop spreadsheets and with labs running all their own PCR assays and assessing quality and doing data cleaning themselves. This work was crucial to monitoring viral levels in communities at the time, and so the urgency and speed of expansion which led to a very diverse field was perhaps unavoidable. Namely, the rapidly expanding field meant that new methods and measures were being rapidly introduced, with no consistent approach to reporting findings or coherent data quality standards. The field is also, by its very nature, complex with many systematic, environmental and laboratory-based factors affecting the signal. Furthermore, viral sequencing and other genetic measurements generate enormous amounts of complicated data. Add this to the fact that the field has many stakeholders who generate and use data all over the world, with data management and governance practices that can vary enormously, and are left with a field with enormous struggles sharing and collecting interoperable data.

To address issues of interoperability and to enable stronger data sharing, our team built and developed version one of the Public Health Environmental Surveillance Open Data Model (PHES-ODM, or ODM). A data model, like the ODM, seeks to replicate the real-world processes through which data is collected using data elements and data relationships. Ultimately, the goal of the ODM is to create a single, unified structure for data storage and collection, and in doing so allow for data to be shared, aggregated, and analyzed with greater ease, advancing the science of wastewater-based epidemiology (WBE) and of environmental surveillance as a whole.

In version 1.0 and 1.1 of the ODM, a strong data model was developed and taken up by collaborators in the Ontario Wastewater Surveillance Initiative, among other programs. WBE has been advancing quickly through the pandemic, however, and version 1.0 was created before the community was aware that variants and sequencing would be of such crucial importance. Since version 1.0, wastewater testing has expanded from solely looking for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), to also test for other targets, including influenza, respiratory syncytial virus (RSV), poliovirus, and even antimicrobial drug resistance (AMR) and various enteropathogens. As such, version 2.0 of the ODM required a large-scale reworking of the original model. This has expanded the model to incorporate data from any kind of environmental surveillance (ie. surface testing, air measures, wastewater testing), to allow for the tracking of more granular metadata, and to record details on sequencing and variants. The work was done with the support and consultation of many experts and collaborators, most notably from the Public Health Agency of Canada's National Microbiology Lab; the European Commission Joint Research Centre; the Ontario Ministry of Environment, Conservation, and Parks; and many partners in academic labs across Canada.

Version 2.0 of the ODM includes an entity relationship diagram (ERD) of the model, as well as a "master parts list" which details all of the components an values in the model. You will find these - along with how-to guides, tutorials, and reference materials - in this set of documentation for the model.

Objectives and Values of the ODM

The over-arching objectives for the ODM are to:

- Include provision for any biological, chemical or physical property, including antimicrobial resistance, drugs and toxins. Biological properties include variants, sequences, alleles, mutations and proteins.
- Include the ability to store data from samples from air, surface samples, and wastewater (water).
- Include protocol reporting, including metadata for methods that may affect measurement across laboratories.
- Include reporting of quality control and assurance. Each measure can have multiple quality control and assurance measures.

We seek to accomplish all of the above stated goals while staying true to the guiding values of the ODM project. These values are to:

- *Support Data Custodians and Data Users:* The data model should support data custodians and data users across the lifecycle of environmental surveillance. Users include wastewater laboratories, municipalities, public health (international, federal, provincial, and local), researchers, and others (citizen data scientists, data aggregators, news agencies). The lifecycle includes data collection and management in municipalities and laboratories, surveillance, research and other uses (public reporting by aggregator sites). For the ODM this means supporting users and building tools to support the ODM, and also means that we must make the ODM Comprehensive. The ODM must include measures from other wastewater dictionaries.
- *Support FAIR data:* In 2016, a diverse set of stakeholders— representing academia, industry, funding agencies, and scholarly publishers—designed, jointly endorsed, and published the 'FAIR Guiding Principles for scientific data management and stewardship'.1 The intent of FAIR is to improve infrastructure supporting reuse of scholarly data based on four foundational principles:

Findability, Accessibility, Interoperability, and Reusability. For the ODM this means making sure that the ODM makes for data that is findable, accessible, interoperable, and reusable by considering these attributes part of the core infrastructure.

- *Use an open science, open software approach:* Open-source software is software with source code that anyone can inspect, modify and enhance. Open-source initiatives embrace principles of open exchange, collaborative participation, rapid prototyping, transparency and community-oriented development. For the ODM this means that all work on the ODM is hosted in open-access environments, like GitHub, where anyone and everyone can transparently see the work being done, the rationale behind it, and can contribute to the project according to their ability.

Orgnaization of the Documentation

The documentation for version 2.0 of the ODM was written and organized with David Laing and Divio's Grand Unified Theory of Documentation in mind. This means including four different pieces:

Tutorials: Oriented to learning, this piece must allow the newcomer to get started. This piece of the documentation should ideally take the form of a lesson. As an analogy, consider tutorials as being akin to teaching a small child how to cook.

How-to guides: Oriented to a goal,this piece must show how to solve a specific problem. This piece of the documentation should ideally take the form of a series of steps. As an analogy, consider how-to guides as being akin to a recipe in a cookery book.

Reference: Oriented to information, this piece must describe the machinery. This piece of the documentation should ideally take the form of a dry description. As an analogy, consider reference as being akin to a reference encyclopaedia article.

Explanation: Oriented to understanding, this piece must explain. This piece of the documentation should ideally take the form of a discursive explanation. As an analogy, consider explanation as being akin to an article on culinary social history.

We hope that the documentation serves its purpose and that you find it useful in figuring out how to best use the ODM and its suite of tools. If you do encounter any issues or questions that do not seem to have an easy answer, please create an issue on our GitHub repository or consult our Discourse page.

Getting to know the ODM

What are "Parts" and "Part Types"?

Within the Public Health and Environmental Surveillance Open Data Model (PHES-ODM, hereafter referred to as simply "the ODM"), every piece or component of the model structure is called a "part". Regardless of function, all of the tables, headers, and categorical inputs are all parts. This creates a foundational term so that the ODM and its structure can be discussed with greater ease by users and designers.

Because the term "parts" refers to every component of the ODM, "part types" are a way to differentiate between parts which have different functions and structures. The three most important part types are:

- Method Part Type
- Measure Part Type
- Attribute Part Type

Please see the parts reference document for more details, but essentially methods allow the recording of methods in environmental surveillance and testing, while measures allow the recording of observations and results, and attributes capture metadata.

The remaining 20 part types (for a total of 23 part types) are:

- Aggregation Part Type
- Aggregation Scale Part Type
- Aggregation Set Part Type

- Category Part Type
- Category Set Part Type
- Class Part Type
- Compartment Part Type
- Compartment Set Part Type
- Dictionary Part Type
- Domain Part Type
- Group Part Type
- Missingness Part Type
- Nomenclature Part Type
- Quality Part Type
- Quality Set Part Type
- Specimen Part Type
- Specimen Set Part Type
- Table Part Type
- Unit Part Type
- Unit Set Part Type

For information and details about all the part types, please see the parts reference document.

"Sets" and the rationale behind sets

"Sets" are a way of grouping together different possible categorical inputs within the ODM. The purpose behind sets is to group options together so that users only need to check a few options from a drop-down menu, rather than scroll through a long list. Sets are also designed so that a single part can be used in multiple sets, which avoids the need to create multiple versions of this part for these different use contexts. For example, if you're taking a measure of concentration, that measure will likely populate the unit choice drop-down list with units from the "standard concentration unit set". Units in this set include Milligrams per litre, parts per million, and Percent Primary Sludge. Similarly, if one were measuring the amount

of oxygen in a wastewater sample they would be offered units from the "dissolved gas unit set". The units in this set include parts per million, and Milligrams per litre. You see here how Milligrams per litre is used twice across the sets, but exists still as a single part in the parts list. Unit sets are only one type of set, with the others being:

- Aggregation sets
- Compartment sets
- Quality sets
- Specimen sets

Details about these sets are their similar - but unique - applications can be found in the parts reference document. Importantly, "category sets" are not considered a "set" like these others. See the section below for an explanation of this difference.

Why category sets are treated differently

One of the reasons why "sets" are set up and organized the way that they are, is to allow for the re-use of parts in multiple sets. Category sets are, however, an exception to this rule because the categories that make up a category set are used in only one set. Furthermore, the general sets are needed for almost every measure or method (which require unit, aggregation, quality, and compartment information), while category sets are used only in specific circumstances for specific fields. These are things such as collection metadata (example: Sample collection category set), dictionary metadata and model architecture (example: Data Type Category Set), or more detailed types of certain methods (example: Nucleic Acid Extraction Category Set). Category sets are also a distinct part type, and more information about them can be found in the parts reference document.

The "what" and "why" of Specimen IDs

Specimen IDs indicate the level at which a measure is being done. This can be: a site measure, ie. a measure at a site such as temperature or weather; a sample measure, ie. a laboratory measurement on a sample, such as gene copies of SARS-CoV-2 per mL; a person measure, ie. a measure of something at the level of an individual person, such as a blood pressure reading; or a population measure, ie. an aggregate measure of a population, such as the number of confirmed cases of a given illness. While there is currently nothing in version 2.0 of the ODM with uses the person specimen ID explicitly, it has been included to allow for the possibility of storing individual-level data in a future version. The reason specimen IDs were created was so that there could be a single manner in which measures and methods are recorded, regardless of the level at which they were performed, while still maintaining the possibility to collect site, sample, and population measures as a distinct types of metadata.

The "what" and "why" of Groups and Classes

Groups and classes, similar to sets, are ways of grouping together different measures within the ODM. Given that the ODM aims to be as robust as possible and has a very long list of possible measures, groups and classes were designed to give shorter lists of measures in the drop down lists by specifying details about the kind of measure that a user is recording. Groups and classes can work together to further specify what kinds of measures are being reported. For example, the group `sarsCov2` contains many measures, but by specifying that the class is an `allele` or `variant`, the list of possible measures is pared down. Alternatively, class can be said to be non-applicable, paring down the measures in the `sarsCov2` group to only be unspecified measures of the quantity of the virus.

Tables and table types within the ODM

Within the ODM there are three types of tables: program description tables, results tables, and look-up tables. These table types exist to differentiate the function of these tables and to highlight these differences to users. The different tables take different types of inputs and maintenance from users, so understanding the differences can be important.

Program description tables

Program description tables (represented in yellow in the ERD) are tables used to record metadata on the organizations, locations, methods, and appurtenance. These tables help to describe surveillance and testing programs, and are intended to be updated infrequently.

Results tables

Results tables (represented in blue in the ERD) are the tables used to record details on samples and measures. These tables record the main outcomes data and are updated daily, if not more frequently.

Look-up tables

Look-up tables (represented in green in the ERD) are the tables that are pre-programmed and pre-populated in the ODM. These hold information on sets, all parts, languages, and translation abilities. These are only updated by the ODM team in version updates.

Measures, Methods, and Attributes: Key parts

While there are many part types, there are three main part types users should be most familiar with: measures, methods, and attributes. These three have parallels with the three table types, and the differences and details of these parts are useful to understand.

Measures

Measures are actually types of measures that can be performed. These can range from temperature to the number of gene copies in a sample. The measure, or `measureID`, can be selected from a drop down in the templates and it specifies the kind of measure you intend to record. The actual value of the measure is then recorded in the `value` field of the `measures` table, with units and aggregation specified in the `unitID` and `aggregationID` fields.

Methods

Similar to measures, methods are types of methods that can be performed to accomplish a measurement. These can be diverse, ranging from incubation, qPCR, or nucleic acid extraction. The method itself (`methodID`) is selected from a drop down in the templates, specifying in general terms the kind of method the user wishes to record. From there, the `value` field of the `methodSteps` table can be populated by one of the inputs from the category set associated with that `methodID`. This provides a higher level of detail for a given method. For example, the `methodID` might be `solidSep` for solid separation of a sample. The value field might then be populated with `cent` for centrifugation, indicating more details about how the sample settling was done.

Attributes

Attributes are the largest category of part type, as these refer to any most of the fields in the ODM. Attributes are fields for metadata within the ODM and range greatly in the use. They comprise everything from collection dates, to sampling period, to names.

Data quality and reportability

Within the ODM there is a `qualityFlag` field present in both the `samples` and `measures` tables. This field serves to highlight whether or not there is a quality issues with the sample or the measure. The quality flag also allows a user to specify to type of quality issue. This is managed through the use of quality sets, which are the sets that contain the possible quality flags for a given measure or for samples. The idea is that this provides data on any issues with a sample and an indication of the nature of that issue. Having data about the nature and presence of a quality issue is often not sufficient for decision makers who are trying to use and interpret the data. As such, there is also a `reportable` field with is a Boolean indicator of whether or not data can or should be reported or included in final reports and decisions.

Time periods for samples and measures

Fo measures, there is a field `aDateStart` and `aDateEnd` which specify the date and time that an analysis was begun and finished. This allows for the recording of greater detail around timelines for especially long, multi-day analyses. For shorter analyses, which will likely make up the bulk of reported measures, the same dat can input in both fields. The idea is to have the reporting tables for measures be as robust as possible to allow for various kinds of timelines.

For samples, there is `collDT`, `collDTStart`, and `collDTEnd`. The first field is for the collection date and time of a single grab sample, so start and end are not necessary and the other two fields can be left blank. For composite or pooled sample, the start and end date and time for collection is crucial information to know. When these two fields are populated, the `collDT`field can be left blank.

Dates within the ODM

There are a number of date fields within the ODM which all serve different purposes. Collection datetime (`collDT`) is the date a sample was collected, used only for grab samples. This field is left blank if the collection datetime start and end fields (`collDTstart` and `collDTEnd`) have been populated instead. Inversely, collection datetime start and end fields should be left blank if the collection datetime filed has been populated. Similarly, analysis datetime start and analysis datetime end (`aDateStart` and `aDateEnd`) are used to report the date and or timeline of an analysis for a measure.

Date fields that are more related to data processing and labratory infrastructure are: the last edited date (`lastEdited`) which indicates the last time a table, or a measure or sample details, were last edited or updated; the sent date (`sentDate`), or date that a sample was sent to the lab from the field; the received date (`recDate`), or the date the sample was recieved in the lab; and the report date (`repDate`), or the date that the analysis results or measures were reported.These give a greater indication of how up to date data is, but also on the speed and efficiency of the pipeline between sampling and reported results. Dates should be reported in day/month/year format to accommodate the most popular global convention.

Translation and language capabilities

The default language of the ODM is English, but French translations of all descriptive elements of the data model dictionary are also available. As additional nation states and partners adopt the ODM, we anticipate that these fields will be translated into other languages as well. The translation capacities are managed through the language look-up table (`languageLUs`), the translation look-up table (`translationLUs`), and the parts table (`partsLUs`). When a translation for a given part is not available, the dictionary will default to the English term. The language look-up table stores linguistic and classification codes for spoken human languages, with the most recent ISO639 code being the language ID (`languageID`). In the translation table, the language ID is paired with every part ID (`partID`), along with the label (`partLabel`), description (`partDesc`), and instructions (`partInstr`) translated to that language. The part IDs are linked to the full parts list which otherwise contains metadata that is coded in variables and requires no further translation.

Questions and online community

If any users have additional questions or issues with the ODM, we invite them to check out our Discourse Page for discussion boards and community support. For larger issues, and to ask the ODM team to add additional fields or variables into the model, we encourage users to visit the project's GitHub repository and to create and issue there so that a team member can respond.

How to use the ODM

How-To guides

1) How to use templates

ODM Excel report templates provide you with an easy way to enter your wastewater and other environmental data into the PHES-ODM format. The templates also serve as an interactive way to get to know the ODM. Below you will find a series of guides that will walk you through how to enter data into the report templates.

In these guides, "field" refers to a column in the template, and "entry" refers to a row of information that you entered. Guides also provide definitions and explanations for some terms; however, more complete information is found in the most can be found in the reference section of the ODM documentation.

The report templates can be found at the OSF.io PHES-ODM project. More information about the tables can be found in the getting-to-know section.

Briefly,

- `samples` and `measures` tables are used day-to-day reporting. Information about a sample will be recorded in the `samples` table. Measurements are recorded in the `measures` table. A measure is

'measurement or observation of any substance including a biological, physical or chemical substance'.

- There are three optional tables to support reporting samples and measures.

  – `sampleRelationships` is optional and used only when you have samples that are pooled or split.

  – `measureSets` is also an optional table that can be used to link measures together.

  – `qualityReports` is used for detailed quality assurance and control measures (you can—and should— record a quality flag attribute for each measure or sample in the `measures` and `samples` tables).

- Typically, there is one-time initial setup where information is entered the tables with the yellow tabs in the Excel template. These tables include information about `sites`, `addresses`, `organizations`, and `contacts`.

  – `sites` is a mandantory table records information about where testing is performed.

  – `addresses`, `organizations`, and `contacts` provide the contact information for sites and also other entities such as laboratories, or database custodians.

- There are optional supporting tables that include `protocols` and `instruments` where you record information about how samples are taken and measures are reported. These tables are usually completed once and then updated when there are changes to the protocol. `protocolSteps` and `protocolRelationships` tables are part used alongside the `protocols` table. Other supporting tables include `polygons` where information is store about the sample shed

and `datasets` which includes information about the data custodian and owner of the data.

The templates contain four main types of fields, each with their own for instructional purposes:

- **Identifier, unique identifier and composite unique identifier (red):** In these fields you will create a value that will be used to identify something. For instance, `Sample ID` is used to identify each unique sample. An identifier can be repeated between entries, while an unique identifier cannot. There is usually only one unique identifier per template, and they correspond to the name of the table. e.g. `Measure ID` for the `measures` table, and `Contact ID` for the `contacts` table.
- **Drop-down and conditional drop-down menus (green):** These fields have a drop-down menu which contain the values that you can either select **or** type in. In conditional drop-down menus, the values depend on what you entered in a previous field.
- **Date fields (purple):** Dates are entered in these fields and must be in the form of the ISO 8601 format: `yyyy-mm-dd`. All date fields also support entries for hours, minutes, and seconds: `2022-01-01T06:11:54` and `2022-01-01T06:11:54+13:30`
- **Free form fields (blue):** In these fields, you can enter your data. Any restrictions will be specified in the relevant sections. Keep in mind, different measures may have different data types that can not be validated in Excel. Data types each measure can be checked in the reference list for the measure. For example, the data type for temperature is a real number.

2) How to report Measures and Measure Sets:

In this guide you will learn how to record data in the `Measures` and `Measure Sets` table templates. In the `Measures` table, each row repre-

sents a measure. Along the same lines, in the `Measure Sets` template, each entry will be a collection or set of measures.

Quick Start

Below you will find the mandatory fields for the `measures` Table. You will also find definitions of terms and examples of entries of data, with all of the fields filled and colour-coded. A more detailed description of some of the key concepts can be found in the following section,Detailed description.

Measures Template

1. **Mandatory fields**

- `Report ID`: Unique identifier for a Measure.

- `Sample ID`: Unique identifier for a Sample.

- `Site ID`: Unique identifier for the location where a Sample was taken.

- `Analysis Date End`: Date the Measure was completed.

- `Measure`: A measurement or observation of any substance including a biological, physical or chemical substances.

- `Value`: Value of the Measure.

- `Unit`: Units of a value.

- `Aggregation`: Statistical measures that the Measure represents.

- `Specimen`: Substance or thing upon which the observation was made. Specimens include water, air, and surface. The Specimen feild is mandatory if there is more than one specimen type that is collected in database.

2. **Examples**

   Image will be added

Measure Sets Template

1. **Mandatory fields**

- `Report Set ID`: Unique identifier that links together a group of related Measures.

3. **Examples**

   Image will be added.

Detailed description

Measures template

1. **Columns A to H**

	A	B	C	D	E	F	G	H
1	Report ID	Protocol ID	Sample ID	Purpose	Polygon ID	Site ID	Dataset ID	Report Set ID
2								
3								

    i) Columns A-C, and E-H

- These are the identifier fields.

- `Report ID` (column A) is the unique identifier for this template, and it cannot be repeated. Each Report ID represents a unique measure.

  The `Report ID` can be any text field up to 30 characters. If you don't have a method to generate a `Report ID` you can use the ODM recommended formula: {Mathew, can you add the formula here}.

- Other identifiers can be repeated between entries (if needed). For instance, if you enter two different measures from the same sample, then the `Sample ID` (column C) will be the same.

- You may have already created these identifiers in another template. For instance, you may have created `Sample ID` in the `samples` Template.

ii) Column D

- `Purpose` (optional) has a drop-down menu list. In the list, `Regular` is the default purpose.

2. **Columns I to M**

I	J	K	L	M
Analysis date start	Analysis date end	Report Date	Specimen	Fraction analyzed

i) Columns I to K

- These are the date fields where you can enter the dates associated with your measure in the format yyyy-mm-dd. Including hours and minutes is optional, but all date-entries use the ISO 8601 format. `2022-01-01T06:11:54` or `2022-01-01T06:11:54+13:30`

ii) Columns L and M

- `Specimen` and `Fraction analyzed` have drop-down menus. Both fields are optional, but both are recommended.
- `Specimen` is must be included your table has more than one type of specimen. When there is only one specimen, the database table record the specimen type. For example, if your `measures` table include only wastewater sample measures, you can indicate this information in the `databases` table.
- `Fraction analyzed` applies only for water and wastewater samples. You should record the fraction for all samples if they are component type water or wastewater.

3. **Columns N to S**

N	O	P	Q	R	S
Group	Class	Measure	Value	Unit	Aggregation

i) Columns N and O

- `Group` and `Class` help organize `Measures` to make a specific measure easy to find. The fields have drop-down menus. Both fields are optional and used only if you need help finding a `Measure`.
- For example, to find the allele measures for SARS-CoV-2 you can start by selecting `SARS-CoV-2` in the `Group` column. Next, you select `Allele` in the `Class` column. Then, you'll see the drop-down in the `Measure` column that contains SARS-CoV-2 allele regions.
- Leave these fields **blank** if you do not use them.

ii) Column P

- `Measure` is where you select what is being measured. A measure in ODM is a 'measurement or observation of any

substance including a biological, physical or chemical substance.' `Measure` has a conditional drop-down menu. See above section on `Group` and `Class`.

- If you chose to enter in a `Class` (column O), the drop down menu will contain the `Measures` found in that `Class`. If you did not enter a value in column O, the menu will contain all possible `Measures`.

iii) Column Q - This where you will enter in the value of your `Measure`. - For instance, if your `Measure` is a temperature of 20 ºC, you would enter "20". - Note: Excel accepts any data type can be entered in the `Measure` column. However, each `Measure` has a specific data type. Data types can be found in the reference documentation for each measure. For example, the data type for temperature can be found here.

iv) Column R

- `Units` is where you enter the unit for your measure. There is a conditional drop-down list of the units that are valid for the measure in column P. For example, if the measure is `[Storate temperature](../parts.qmd#sTemp)`, the only unit displayed is `Celcsius`.

v) Column S

- `Aggregations` is where you enter the aggregation of your value. There is a conditional drop-down menu field which contains the types of aggregations of your value. For example does your value represent a mean, median, etc.
- What appears in this menu list depends on what you entered in the Unit field (column R).

4. **Columns T to AA**

	T	U	V	W	X	Y	Z	AA
1	Nomenclature	Index	Measure License	Reportable data flag	Organization ID	Contact ID	Update Date - Last Edited	Notes
2								
3								

i) Columns U, V and AA

- `Index` (column U) is used if you have multiple entries with the exact same values in the other fields. If this is the case you could use "1", "2", etc. to differentiate them.
- `Measure license` (column V) refers to the access and use licensing of the measure that you are entering.

ii) Column T and W

- `Reportable` (column W) is where you can indicate if there are quality concerns with the measure and the measure should not be used for regular reporting. More details of the quality concerns can be recorded in the `quality sets` table. There is a drop down list this field.

iii) Column X and Y

- These are identifier fields that are used to indicate the `Organization` and `Contact` associated with the entry.

iv) Column Z

- `Last edited` field is where you indicate the date when the entry was updated. The field is used if you need to modify an entry (row) after your initial recording. You can leave

> this field blank if the measure was entered with no updates. Meaning, use this field only when you modify the entry (row).

Measure Sets Template

1. **Columns A to G**

> **i** NOTE: this figure needs to be update with the correct labels.

	A	B	C	D	E	F
						Update
1	Report Set ID	Protocol ID	Name	Contact ID	Organization ID	- Last Ed
2						
3						

   i) Columns A, B, D and E

   - These are all Identifier fields.
   - Report Set ID (column A) is the Unique Identifier for this template, and cannot be repeated between entries. In essence, each value of Report Set ID represents a unique Measure Set.
   - For the rest, you can repeat the Identifier between entries (if needed). For instance, if you are entering two different Measure Sets that came from the same Organization, then the Organization ID (column D) will be the same.
   - You may have already created these Identifiers in another template. For instance you may have created Organization ID in the Organizations Template.

   ii) Columns C and G

- These are Free Form fields in which you will enter the indicated information. Name (column C) refers to the name that you have given to the Measure Set.

iii) Column F

- This is a Date field in which you can enter in the date when the entry was updated.

You have now entered your data in the Measures and Measure Sets Template, congratulations!

3) How to report Samples and Sample Relationships:

In this guide you will learn how to enter Samples and Sample Relationships into their respective templates. In the Samples template, each entry represents a Sample. A Sample is the wastewater that you collected so that Measures can be made. .Along the same lines, each entry in the Sample Relationships represents an interaction (or Relationship) between two Samples in the form, Subject - Relationship - Object. So, to specify that Sample A is a field sample replicate of Sample B, you would enter "Sample A" - "Field Sample Replicate" - "Sample B"

You can find additional information regarding terms and the colour-coding of columns at the beginning of this guide (1) How to use templates) and

Quick Start

Below you will find the fields that are mandatory for the Samples and Sample Relationships template. You will also find some examples of entries of data, with the all of the fields filled and colour-coded. A more detailed description of some of the key concepts can be found in the following section, Detailed Description.

Samples Template

1. **Mandatory fields**

Sample ID	Site ID
Sample Material	Sample Collection Type
Collection Period	Collection Number
Collection Date Time	

2. **Definitions**

- Sample ID: Unique identifier for a Sample.

- Site ID: Unique identifier for the location where a wastewater sample was taken.

- Sample Material: Type of Sample.

- Sample Collection Type: Method used to collect the Sample.

- Collection Period: The time period over which the Sample was collected, in hours.

- Collection Number: The number of subsamples that were combined to create the Sample. Use NA for continuous, proportional or passive sampling.

- Collection Date Time: The date, time and time zone the sample was taken.

3. **Examples**

   to be added

Sample Relationships Template

1. **Mandatory fields**

Sample ID Object	Relationship
Sample ID Subject	

2. **Definitions**

- Sample ID Object: The Object (or one of the samples) of a relationship between two Samples. This will always be a Sample ID that was previously created in the Samples Template.

- Relationship: Describes relationship between two Samples.

- Sample ID Subject: The Subject (or one of the samples) of a relationship between two Samples. This will always be a Sample ID that was previously created in the Samples Template.

3. **Examples**

   Examples will be added

Detailed Description

Samples Template

1. **Columns A to G**

	A	B	C	D	E	F	G
1	Sample ID	Protocol ID	Organization ID	Contact ID	Site ID	Purpose	Sample material
2							
3							

i) Columns A to E:

- These are Identifier fields.

- Sample ID (column A) is the Unique Identifier for this template and cannot be repeated between entries. You can think of each Sample ID value as representing a unique Sample.

- For the rest of the fields, you can repeat values between entries. For instance, if you are entering two different Samples from the same Site, then the Site ID (column E) will be the same.

- You may have already created these Identifiers in another template. For instance you may have created Site ID in the Sites Template.

ii) Columns F to G:

- These are Drop-down Menu fields where you can enter information regarding the Purpose and Sample Material of your Sample.

2. **Columns H to N**

H	I	J	K	L	M	N
Dataset ID	Sample origin	Replicate Type	Sample collection type	Collection Period	Collection Number	Pooled

i) Columns H:

- These is an Identifier field for the Dataset that your Sample is associated with.

ii) Columns I to K, N:

- These are Drop-down Menu fields related to various characteristics of your Sample.

- Sample Collection Type (column K) refers to the collection technique you used to obtain the Sample.
- Pooled (column N) refers to whether or not the Sample that you are entering is made up of multiple child Samples.

iii) Columns L and M:
- These are Free Form fields.
- Collection Period (column L) refers to the number of hours that it took to collect your Sample.
- Collection Number (column M) refers to the number of subsamples that were used to create Sample that you are entering.

3. **Columns O to V**

O	P	Q	R	S	T	U	V
Collection date time	Collection date time start	Collection date time end	Date sample was sent	Date sample recieved	Reportable data flag	Update Date - Last Edited	Notes

i) Columns O to S, U:
- These are Date fields that are related to various dates associated with your Sample. These dates will be in the format dd/mm/yyyy.

ii) Column T:
- This is a Drop-down Menu field (Reportable Data Flag) where you can indicate whether or not your entry is of a good enough quality that it can be used by others.

iii) Column V:
- This is a Free Form field where you can indicate anything of interest..

Sample Relationships Template

1. **Columns A to E**

	A	B	C	D	E
1	Sample ID Subject	Relationship	Sample ID Object	Update Date - Last Edited	Notes
2					
3					

i) Columns A and C:

- These are Identifier fields.

- Both of these Identifiers are Sample IDs and represent Samples. You would have created them previously in the Samples Template. Note that neither of them are Unique Identifiers and, thus, can be repeated between entries.

ii) Columns B:

- This is a Drop-down Menu field, where you can select the type of relationship between two Samples. For instance, if Sample B was a child of Sample A, you would put the Sample ID of Sample A in the Sample ID Subject field (column A), and the Sample ID of Sample B in Sample ID Object field (column C). Then you would chose "Child relationship" from the menu in this column.

iii) Columns D and E:

- These are a Date field (column D) and a Free Form field (column E) where you can enter in the indicated information.

You have now entered your data in the Samples Template, congratulations!

4) How to report `Protocols, Protocol Steps` and `Protocol Relationships:`

In this guide you will learn how to enter Protocols, Protocol Steps and Protocol Relationships into their respective templates. As described in , a Protocol is "A procedure for collecting a sample or performing a measure". Each entry in the Protocols Template represents a unique Protocol. A Protocol is made up of Protocol Steps. In the Protocol Steps Template, each entry is one of these steps. Finally, Protocols and Protocols can be linked to each other. Each entry in the Protocol Relationships Template represents one of these relationships in the form, Subject - Relationship - Object. So, for example, to specify that Protocol Step A needs to be done before Protocol Step B, you would enter "Protocol Step A" - "is Before" - "Protocol Step B". .

You can find additional information regarding terms and the colour-coding of columns at the beginning of this guide (1) How to use templates) and

Quick Start

Below you will find the fields that are mandatory for the Protocols, Protocol Steps and Protocol Relationships templates. You will also find some examples of entries of data, with all of the fields filled and colour-coded. A more detailed description of some of the key concepts can be found in the following section, Detailed Description.

Protocol Steps Template

1. **Mandatory fields**

Protocol Step ID	Method (if entry is a Method)
Measure (if entry is a Measure)	Value (if entry is a Measure)
Aggregation (if entry is a Measure)	Unit (if entry is a Measure)

2. **Definitions**

- Protocol Step ID: Unique identifier for a Protocol Step.

- Measure: A measurement or observation of any substance including a biological, physical or chemical substance.

- Method: A procedure for collecting a sample or performing a Measure.

- Value: Value of the entry.

- Aggregation: Statistical measures used to report a Measure.

- Unit: The units of a Measure.

3. **Examples**

   Image will be added

Protocols Template

1. **Mandatory fields**

Protocol ID

2. **Definitions**

- Protocol ID: A unique identifier for a given Protocol.

3. **Examples**

Image will be added

Protocol Relationships Template

1. **Mandatory fields**

Protocol ID Container	Relationship
Protocol ID Subject (if subject is a Protocol)	Protocol Step ID Subject (if subject is a Protocol Step)
Protocol ID Object (if object is a Protocol)	Protocol Step ID Object (if object is a Protocol Step)

2. **Definitions**

- Protocol ID Container: Unique identifier for a Protocol and the Steps and other Protocols that make it up.

- Relationship: Describes relationship between the Subject and Object.

- Protocol ID Subject: The Subject of a Relationship between a Protocol and a Protocol Step or Protocol.

- Protocol Step ID Subject: The Subject of a Relationship between a Protocol Step and a Protocol Step or Protocol.

- Protocol ID Object: The Object of a Relationship between a Protocol and a Protocol Step or Protocol.

- Protocol ID Step Object: The Object of a Relationship between a Protocol Step and a Protocol Step or Protocol.

3. **Examples**

Image will be added

Detailed Description

Protocol Steps Template

1. **Columns A to G**

	A	B	C	D	E	F	G
1	Protocol Step ID	Method	Measure	Summary	Protocol step source	Protocol Step Version	Reference link
2							
3							

  i) Column A:
  - Protocol Step ID (column A) is the Unique Identifier field for this template and cannot be repeated between entries. You can think of each Protocol Step ID value as representing a unique Protocol Step.

  ii) Columns B to C:
  - These are Drop-down Menu fields.
  - You only need to enter a value into Method ID (column B) or Measure ID (column C). The former is for when you are entering a Method as a Protocol Step. The latter is when you are entering a Measure as a Protocol Step. Leave the other field **blank**.

  iii) Columns D to G:
  - These are Free Form fields and you can enter the relevant information in any format that you wish.
  - Summary (column D) is a short description of the Protocol Step that you are entering.
  - Protocol Step Source (column E) specifies the Protocol Step which serves as a basis for the given Protocol Step.
  - Protocol Step Version (column F) specifies the version of a given Protocol Step.

	H	I	J	K	L	M	N	O
1	Organization ID	Contact ID	Instrument ID	Value	Unit	Aggregation	Update Date - Last Edited	Notes
2								
3								

2. **Columns H to O**

   i) Columns H to J:
      - These are Identifier fields.
      - You can repeat values between entries. For instance, if you are entering two different Protocol Steps from the same Organization, then the Organization field (column H) will be the same.

   ii) Column K:
      - A Free Form field in which you will enter the Value of a Measure. If a Method is being entered, then you can put "NA" here.

   iii) Columns L and M:
      - These are Conditional Drop-down Menu fields.
      - Unit (column L) depends on what you entered in Measure ID (column C). If you entered a Method, then you can put "NA" in this field.
      - Aggregation (column M) depends on what you entered in Unit (column L). If you entered a Method, then you can put "NA" in this field.

   iv) Columns N and O:
      - These are Free Form fields where you can enter the indicated information.

Protocols Template

1. **Columns A to F**

	A	B	C	D	E	F
1	Source Protocol	Protocol ID	Dataset ID	Name	Summary	Reference link
2						
3						

    i) Columns B and C:

- These are Identifier fields.
- Protocol ID (column B) is the Unique Identifier for this template, and cannot be repeated between entries. In essence, each value of Protocol ID represents a unique Protocol.
- For Dataset ID, you can repeat between entries (if needed). For instance, if you are entering two different Protocols from the same Dataset, then the Dataset ID (column C) will be the same.
- You may have already created the Dataset IDs in the Datasets Template.

    ii) Columns A, D to F:

- These are Free Form fields in which you can enter the indicated information.
- Source Protocol (column A) is where you can indicate the Protocol that served as the basis for the Protocol that is currently being entered.
- Name (column D) refers to the Name that you have decided to give your Protocol.

2. **Columns G to K**

    i) Columns G, H:

- These are Identifier fields. You can repeat values between entries.

    ii) Columns I, K:

G	H	I	J	K
Organization ID	Contact ID	Protocol Version	Update Date - Last Edited	Notes

- These are Free Form fields and you can enter the relevant information in any format that you wish.
- You can use the Protocol Version field (column I) to indicate the version of the Protocol that you are entering.

iii) Columns J:

- This is a Date field where you can indicate when the entry was updated.

Protocol Relationships Template

1. **Columns A to H**

	A	B	C	D	E	F	G	H
1	Protocol ID Container	Protocol ID Object	Step ID Object	Relationship	Protocol ID Subject	Step ID Subject	Update Date - Last Edited	Notes
2								
3								

i) Columns A to C, E and F:

- These are Identifier fields.

- All of these Identifiers are either Protocol IDs or Protocol Step IDs and represent Protocols and Protocol Steps, respectively. This includes Protocol ID Container (column A), which represents the Protocol that contains the relationships that you are entering in this template. Note that none of these fields are Unique Identifiers and, thus, can be repeated between entries.

- You should only enter in a value for one of the two "Object" columns (column B and C); this depends on whether the Object of the relationship that you are entering is a Protocol or a Protocol Step. The same is true for the two "Subject" columns (column E and F).

- An example will be given in point (ii) below.

ii) Columns D:

- This is a Drop-down Menu field, where you can select the type of Relationship that is being entered.
- For example, say you wanted to enter in a Relationship stating that Protocol Step A takes place before Protocol Step B in a particular Protocol Container. You would enter the relevant Identifiers in the Step ID Object field (column B) and the Step ID Subject field (column F). You would then select "is Before" from the Relationship field. Finally, to identify this relationship, you would enter in the Identifier in the Protocol ID Container field (column A)

iii) Columns G and H:

- These are a Date field (column D) and a Free Form field (column E) where you can enter in the indicated information.

You have now entered your data in the Protocol Steps, Protocols and Protocol Relationships Template, congratulations!

5) How to report Metadata:

In this guide you will learn how to enter Metadata through a series of templates. Each entry in a template will usually represent what is found in the title of the template. For instance, in the Organizations template

each row will represent an Organization. In the context of the PHES-ODM, metadata is anything that gives information that is not found in the templates related to Measures, Protocols and Samples.

You can find additional information regarding terms and the colour-coding of columns at the beginning of this guide (1) How to use templates) and

Quick Start

Below you will find the fields that are mandatory for the metadata-related templates. You will also find some examples of entries of data, with the fields filled and colour-coded. A more detailed description of some of the key concepts can be found in the following section, Detailed Description.

Addresses Template

1. **Mandatory fields**

Address ID	Dataset ID
Address Line 1	City
State, Province or Region	Country

   - Address ID: A unique identifier for an Address.

   - Dataset ID: The name of the Dataset that stores information for Measures, Samples and other reporting tables.

   - Address Line 1: Line 1 (the street name, number and direction) for a given Address.

   - City: The city where a Site or Organization is located; part of the Address.

- State, Province or Region: The state, province, or region where a Site or Organization is located; part of the Address.

- Country: The country where a Site or Organization is located; part of the Address.

2. **Examples**

Images will be added

Contacts Template

1. **Mandatory fields**

Contact ID	Organization ID
Contact email	

- Contact ID: A unique identifier for a given contact person.

- Organization ID: A unique identifier for the Organization to which the reporter is affiliated.

- Email: Contact e-mail address, for the labs.

2. **Examples**

Images will be added

Datasets Template

1. **Mandatory fields**

Dataset ID	License
Data Custodian	

- Dataset ID: A unique identifier for the Dataset that stores information.

- License: The license of the Dataset.

- Data Custodian: The data custodian(s) of the database.

2. **Examples**

Images will be added

Instruments Template

1. **Mandatory fields**

Instrument ID	Dataset ID
Model	Instrument Type

- Instrument ID: A unique identifier for an Instrument.

- Dataset ID: The name of the Dataset that stores information for Measures, Samples and other reporting tables.

- Model: Model number or version of the Instrument.

- Type of Instrument used to perform the measurement.

2. **Examples**

Images will be added

How to use the ODM

Organizations Template

1. **Mandatory fields**

Organization ID	Address ID
Organization Type	

- Organization ID: A unique identifier for the Organization to which the reporter is affiliated.
- Address ID: A unique identifier for an Address.
- Organization Type: Specifies the type or purpose of a given Organization.

2. **Examples**

Images will be added

Polygons Template

1. **Mandatory fields**

Polygon ID	Type of Geography
Well-known text	European Petroleum Survey Group Coordinates

- Polygon ID: Unique identifier for the Polygon.
- Type of Geography: Type of geography that is represented by the Polygon.
- Well-known text: Well-known text of the Polygon.
- European Petroleum Survey Group Coordinates: The unique EPSG code specifying a given geospatial area.

2. **Examples**

Images will be added

Quality Reports Template

1. **Mandatory fields**

Quality Report ID	Report ID (if entry is related to a Measure)
Sample ID (if entry is related to a Sample)	Report Set ID (if entry is related to a Measure in a Measure Set)
Quality Flag	

- Quality Report ID: A unique identifier for a given Quality Report.
- Report ID: Unique identifier for a Measure.
- Sample ID: Unique identifier for a Sample.
- Report Set ID: Unique identifier that links together a group of related Measures.
- Quality Flag: A field for reporting any quality concerns - of lack thereof - for a Sample or Measure.

2. **Examples**

Images will be added

Sites Template

1. **Mandatory fields**

Site ID	Site Type
Sample shed	Contact ID
Latitude	Longitude
European Petroleum Survey Group Coordinates	

- Site ID: Unique identifier for the location where wastewater sample was taken.

- Site Type: Type of Site where sample was taken.
- Sample shed: A geographic area, physical space, or structure. A Sample is taken from a sample shed for a representative measurement of a substance(s).
- Contact ID: A unique identifier for a given contact person.
- Latitude: Latitude in decimal coordinates of the Site.
- Latitude: Longitude in decimal coordinates of the Site.
- European Petroleum Survey Group Coordinates: The unique EPSG code specifying a given geospatial area.

2. **Examples**

Images will be added

Detailed Description

Addresses Template

1. **Columns A to E**

	A	B	C	D	E
1	Address ID	Dataset ID	Address Line 1	Address Line 2	City
2					
3					

    i) Columns A and B:

- These are Identifier fields.

- Address ID (column A) is the Unique Identifier for this template, and cannot be repeated between entries. In essence, each value of Address ID represents a unique Address.

- For Dataset ID (column B), you can repeat the value between entries (if needed). For instance, if you are entering two different Addresses from the same Dataset, then this column will be the same.

- You may have already created the Dataset ID in the Datasets Template.

ii) Columns C to E:

- These are Free Form fields in which you can enter various information regarding the Address.

2. **Columns F to J**

F	G	H	I	J
Province, or Region	Postal or Zip Code	Country	Update Date - Last Edited	Notes

i) Columns F to J:

- Most of these fields are Free Form in which you can enter various information regarding the Contact.
- Update Date - Last Edited (column I) is a date field.

Contacts Template

1. **Columns A to E**

i) Columns A to C:

- These are Identifier fields.

	A	B	C	D	E
1	Contact ID	Dataset ID	Organization ID	First name of contact	Last Name of Contact
2					
3					

- Contact ID (column A) is the Unique Identifier for this template, and cannot be repeated between entries. In essence, each value of Contact ID represents a unique Contact.

- For the rest, you can repeat the Identifier between entries (if needed). For instance, if you are entering two different Contacts that came from the same Organization, then the Organization ID (column C) will be the same.

- You may have already created these Identifiers in another template. For instance you may have created Organization ID in the Organizations Template.

ii) Columns D and E:

- These are Free Form fields in which you can enter the name of the Contact.

2. **Columns F to J**

	F	G	H	I	J
1	Contact email	Contact phone	Role of Contact	Update Date - Last Edited	Notes
2					
3					

i) Columns F to J:

- Most of these fields are Free Form in which you can enter various information regarding the Contact.

- Update Date - Last Edited (column J) is a date field.

Datasets Template

1. **Columns A to G**

	A	B	C	D	E	F	G
1	Parent Dataset ID	Dataset ID	Dataset Creation Date	Name	License	Description	Reference link
2							
3							

    i) Columns A and B:

- These are Identifier fields.

- Dataset ID (column B) is the Unique Identifier for this template, and cannot be repeated between entries. In essence, each value of Dataset ID represents a unique Dataset.

- For Parent Dataset ID (column A), you can repeat the value between entries (if needed). For instance, if you are entering two different Datasets that came from the same Parent Dataset, then the Parent Dataset ID will be the same.

    ii) Column C

- This is a Date field where you can enter the date that the Dataset was created.

    iii) Columns D to G:

- These are Free Form fields in which you can enter various information related to the Dataset.

2. **Columns H to N**

	H	I	J	K	L	M	N
		Funder	Custody	Funding	Data	Update Date -	
1	Language ID	Contact ID	Contact ID	agency	custodian	Last Edited	Notes
2							
3							

    i) Columns H to L:

- These are Identifier and Free Form fields.
- For information regarding Funders, you can enter their ID and Name in Funder Contact ID and Funding Agency, respectively (columns H and J).
- For information regarding Data Custodians, you can enter their ID and name in Custody Contact ID and Data Custodian, respectively (columns I and K).

    ii) Columns M and N:

- These are a Date field (column L) and a Free Form field (column M) where you can enter in the indicated information.

Instruments Template

    1. **Columns A to G**

	A	B	C	D	E	F	G
1	Instrument ID	Dataset ID	Name	Model	Manufacturer	Contact ID	Organization ID
2							
3							

    i) Columns A, B, F and G:
- These are Identifier fields.

- Instrument ID (column A) is the Unique identifier for this template, and cannot be repeated between entries. In essence, each Instrument ID represents a unique Instrument.

- For the rest of the columns, you can repeat the value between entries (if needed). For instance, if you are entering two different Instruments from the same Dataset, then this column will be the same.

- You may have already created some of the Identifiers in other Templates. For instance, you may have already created Dataset ID in the Datasets template.

ii) Columns C to E

- These are Free Form fields where you can enter the Name (column C), Model (column D) and Manufacturer (column E) of the Instrument.

2. **Columns H to N**

H	I	J	K	L	M	N
Description	Reference link	Instrument Type	Describe other instrument type, if applicable	Index	Update Date - Last Edited	Notes

i) Columns H, I, L to N:

- Most of these fields are Free Form in which you can enter relevant information regarding your Instrument
- You can use Index (column L) to differentiate two entries of data that are the same in the other fields.
- Update Date - Last Edited (column M) is a date field.

ii) Columns J and K:

- For Instrument Type (column J), you can select from the drop-down menu the type of Instrument. If you do not see your Instrument, you can enter "Other instrument type"

- If you entered "Other instrument type" in the Instrument Type field, you can use the Describe Other Instrument type, If Applicable field (column K) to describe your Instrument.

Organizations Template

1. **Columns A to H**

	A	B	C	D	E	F	G	H
1	Organization ID	Dataset ID	Address ID	Organization Type	Name	Description	Update Date - Last Edited	Notes
2								
3								

   i) Columns A and C:
   - These are Identifier fields.
   - Organization ID (column A) is the Unique identifier for this template, and cannot be repeated between entries. In essence, each Organization ID represents a unique Organization.
   - For the rest of the columns, you can repeat the value between entries (if needed). For instance, if you are entering two different Organizations from the same Address, then this column will be the same.
   - You may have already created some of the Identifiers in other Templates. For instance, you may have already created the Address ID in the Addresses Template.

   ii) Columns D to H:
   - For Organization Type (column D), you can select from the menu the type of Organization that you are entering.
   - The rest of the columns contain Free Form or Date fields in which you can enter additional information regarding the Organization.

Polygons Template

1. **Columns A to G**

	A	B	C	D	E	F	G
1	Polygon ID	Dataset ID	Name	Description	Polygon Population	Type of geography	European Petroleum Survey Group Coordinates
2							
3							

    i) Columns A and B:
- These are Identifier fields.
- Polygon ID (column A) is the Unique identifier for this template, and cannot be repeated between entries. A Polygon is an area on a map. Each Polygon ID represents a unique Polygon.
- For Dataset ID (column B), you can repeat the value between entries (if needed). For instance, if you are entering two different Polygons from the same Dataset, then this column will have the same value.
- You may have already created the Dataset ID in the Datasets Template.

    ii) Columns C to E, G:
- These are Free Form fields in which you can enter additional information regarding the Polygon.
- Name (column C) is the name of the Polygon.
- European Petroleum Survey Group Coordinates (column G) is a coordinate system that can be used to identify where your Polygon is.

    iii) Columns F:
- For Type of geography (column F) of the Polygon, you can select one of the values from the drop-down menu.

2. **Columns H to N**

	H	I	J	K	L	M	N
1	Well-known text	File Location of Polygon	Reference link	Organization ID	Contact ID	Update Date - Last Edited	Notes
2							
3							

i) Columns H to J and N:

- These are Free Form or Date fields in which you can enter relevant information regarding the Polygon.
- Well-known text (column H) refers to the text markup language that can be used to represent the Polygon (

ii) Columns K and L:

- These are Identifier fields in which the Organization ID and the Contact ID associated with the Polygon are entered.

Quality Reports Template

1. **Columns A to H**

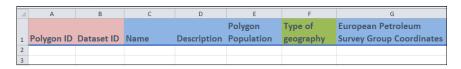|	A	B	C	D	E	F	G	H
1	Quality Report ID	Report ID	Sample ID	Report Set ID	Quality Flag	Severity indicator	Update Date - Last Edited	Notes
2								
3								

i) Columns A to D:

- These are Identifier fields.
- Quality Report ID (column A) is the Unique identifier for this template, and cannot be repeated between entries. In essence, each Quality Report ID represents a unique quality issue that you want to report.
- For the rest of the columns, you can repeat the value between entries (if needed). For instance, if you are entering two different Quality Reports from the same Sample, then the Sample IDs will be the same.

- You may have already created some of the Identifiers in other Templates. For instance, you may have already created Sample ID in the Samples template.

ii) Columns E and F:

- Quality Flag (column E) is a Drop-down Menu field where you can select the type of quality issue that you would like to enter.
- You can indicate the severity of the Quality Flag in the Severity Indicator field (column F).

iii) Columns G and H:

- These are a Free Form field and Date field in which you can enter the indicated information.

Sites Template

1. **Columns A to F**

	A	B	C	D	E	F
1	Parent Site ID	Site ID	Dataset ID	Polygon ID	Site Type	Sample shed
2						
3						

i) Columns A to C, and F:

- These are Identifier fields.
- Site ID (column B) is the Unique identifier for this template, and cannot be repeated between entries. In essence, each Sites ID represents a unique Site.
- For the rest of the columns, you can repeat the value between entries (if needed). For instance, if you are entering two different Sites that are found in the same Polygon, then the Polygon IDs will be the same.

- Parent Site ID (column A) refers to the Site that is parent to the Site that is being entered. For example if the Site that is being entered is a room in a LTC facility, that the Parent Site ID would refer to the LTC facility.

ii) Columns D to E:

- These are Drop-down Menu fields in which you can specify the Site Type (column D) and the type of Sample shed (column E).

2. **Columns G to M**

	G	H	I	J	K	L	M
1	Address ID	Organization ID	Contact ID	Name	Description	Department or Region	Health Planning Region
2							
3							

i) Columns G to I:

- These are Identifier fields for additional information that are asociated with the Site.

ii) Columns J to M:

- These are all Free Form fields in which you can enter in relevant information about your Site.
- Public Health Department or Region (column L) and Health Region (column M), refers to the Department or Region where your Site is located.

3. **Columns N to S**

	N	O	P	Q	R	S
1	Population Served	Latitude	Longitude	European Petroleum Survey Group Coordinates	Update Date - Last Edited	Notes
2						
3						

i) Columns N to S:

- These are Free Form fields and a Date field in which you can enter in additional information of your Site.

Example data for each of the 11 report tables.

- European Petroleum Survey Group Coordinates (column Q) is a coordinate system that can be used to identify where your Site is.

You have now entered in your Metadata, congratulations!

Example data for each of the 11 report tables.

Tutorials

If needed, we can have chapters with differen tutourials

Part I.

Reference guide

The book section has the parts and other lists. The chapters are organized so that there can be persistent links for the look-up tables (parts, sets, language, translations.)

Parts

Parts are the smallest way of describing anything in the ODM. Think of the example of parts of a car. If you own a car, your garage can access a parts list that contains every part of your car – right down to every nut and bolt. The same is true for the ODM.

The ODM has a part ID (partID) and part description (partDescription) for every measure, method and attribute. There are also partIDs for measure categories, units, aggregations, and other parts. Below is the part list.

4s method(4s): Nucleic acid extraction performed using the 4s method. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* https://www.protocols.io/view/v-4-direct-wastewater-rna-capture-and-purification-bpdfmi3n*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

First Nation(FiNa): Used to categorize a sampleshed that is a First Nation, or on reserve lands. Likely for internal use only, Indigenous data can and should not be shared without explicit consent of the nation in quesiton. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnit-

Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 10

International Classification of Diseases(ICD): Classification system for diseases in humans. NA *Part Type:* nomenclature *Domain ID:* Bio *Speciment ID:* poSpecimen *Compartment Set:* humanCompartment *Group ID:* naGroup *Class ID:* disease *Nomenclature ID:* ICD *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

ISO639-1(ISO6391): The first part of the ISO 639 series of international standards for language codes. Part 1 covers the registration of two-letter codes. There are 183 two-letter codes registered as of June 2021. The registered codes cover the world's major languages. Part of the metedata for a languageID. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

ISO639-2B(ISO6392B): A set of international standards that lists short codes for language names. These ISO639-2 are the three-letter codes defined in part two (ISO 639-2) of the standard, including the corresponding two-letter (ISO 639-1) codes where they exist. The 'B' specifies the bibliographic code (B code). Part of the metedata for a languageID. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data

Type: categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

ISO639-2T(ISO6392T): A set of international standards that lists short codes for language names. These ISO639-2 are the three-letter codes defined in part two (ISO 639-2) of the standard, including the corresponding two-letter (ISO 639-1) codes where they exist. The 'T' specifies the terminological code (T code). Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

ISO639-3(ISO6393): A set of international standards that lists short codes for language names. ISO 639-3 extends the ISO 639-2 alpha-3 codes with an aim to cover all known natural languages. Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

ISO639-6(ISO6396): A set of international standards that lists short codes for language names. ISO 639-6 builds off ISO639-3 with the use of four-letter codes, and allowing users to differenciate between variants of languages and language families, such as histroical vs. revived versions of languages. Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

Parts

NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Non-detect(ND): No amplification occurred in the reaction; non-detect. For the value of a non-detected measure, report the actual value even if it is below the limit of detection. The flag here ensures that it's recorded as a non-detect regardless. In instances where the original data doesn't record a value, but only has the flag, please populate the value field with either a 0 if dealing with variant percentages, and a 1 for all other purposes to further indicate a null result. *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol organization table column order(ProtocolOrgOrder): Specifies the order of the columns in a protocol organization table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of a protocol organization table(ProtocolOrgRequired): Specifies the columns required in a protocol organization table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation*

Scale ID: NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Matrix spike duplicate sample relationship(SpikeDupRel): Specifies a given sample is a matrix spike duplicate of another sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Trace signal extrapolation(UJ): Observed quantitation cycle is greater than the experiment-specific standard curve intercept value but evidence of clear amplification was present (i.e., ?trace? signal observed); the reported value is based on the extrapolation of the standard curve in the non-linear region. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Air compartment(a): A measure or observation made from a substance in the air. NA *Part Type:* compartment*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* airCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Parts

a1306s delta-variant gene target(a1306s): a1306s delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

a1918v delta-variant gene target(a1918v): a1918v delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

a2710t omicron-variant gene target(a2710t): a2710t omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

a63t omicron-variant gene target(a63t): a63t omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

a67v omicron-variant gene target(a67v): a67v omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Analysis date(aDate): Date the measurement was performed in the lab. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Analysis date end(aDateEnd): Date the measurement or analysis was completed. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Analysis date start(aDateStart): Date the measurement or analysis was started. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

Atline Analyzer(aas): Atline analyzer with sampler. An atline analyzer with sampler. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* insTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Absolute humidity(absHum): The unit of absolute humidity. The total mass of water vapour present in the air. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* humClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* absHumidUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Absolute humidity unit set(absHumidUnitSet): Unit set for absolute humidity measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* absHumidUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Academic institution organization type(academ): The category of organization type used for academic institutions or research groups. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* orgTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Number of active cases(acti): Number of active cases. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Active(active): Indicator to say that a part is in current use in the model. See partID = status NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* statusCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Address ID(addID): A unique identifier for an address. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Address Line 1(addL1): Line 1 (the street name, number and direction) for a given address. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set*

ID: NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Address Line 2(addL2): Line 2 (the unit number) for a given address. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Address Table(addresses): The table that contains information about addresses, which can be fore Sites, individuals reporting data, or organizations. adapt from verson 1 documentation *Part Type:* table *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* programDescr *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Addresses table column order(addressesOrder): Specifies the order of the columns in a Addresses table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* integer *Minimum Value:* 1 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Requirements of addresses table(addressesRequired): Specifies the columns required in a Addresses table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature*

ID: naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Air filtration unit(afu): Air filtration or circulating unit. Typically the unit would have a fan or blower. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* airCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aggregation(aggID): Statistical measures used to report a measure. Each aggregation has a corresponding value. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Aggregation scale(aggScale): The part type for aggreation scales NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aggregation Scale ID(aggScaleID): A scale used for an aggregation. See partID = ? Only applicable for measures and units. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Aggregation Set ID(aggSetID): The ID for an aggreatation set. Mainly applicable to partType = "units". NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Aggregations(aggregation): Statistical measures used to report a measure. Each dataType that is a number should be reported with an aggregation. NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Inhibition present but addressed(ai): The original sample was inhibited; however, the inhibition has been addressed through dilution. The reported concentration estimate is the updated result after addressing inhibition. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

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Air compartment set(airCompartmentSet): A compartment set for measures and methods in the air compartment. NA *Part Type:* set*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* airCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Air and surface compartment set(airSurfaceCompartmentSet): A compartment set for measures and methods in the air or surface compartments. NA *Part Type:* set*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* airSurfaceCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Environmental Temperature(airTemp): Environmental temperature. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* tempClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* temperatureUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Air and water compartment set(airWaterCompartmentSet): A compartment set for measures and methods in the air or water compartments. NA *Part Type:* set*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* airWaterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Airplane(airpln): Airplane NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Alias(alias): ID of an assay that is the same or similar. A comma separated list. Deprecated as of version 2, please avoid use. Use notes instead. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Alias ID(aliasID): Alias id ID of an assay that is the same or similar. a comma separated list. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

All domains(allDo): Domain that specifies that it could apply to al domains; biological, chemical, and physical. NA *Part Type:* domain*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Access to all org(allOrgs): If this is 'no', this data will not be available to any partner organization. If missing, data will be available to the all organizations. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Alleles class(allele): Specifies a collection of measures/methods related to alleles. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Allele unit set(alleleUnitSet): Unit set for alleles. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* siSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* alleleUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aloh3 precipitation(aloh3): Aloh3 precipitation NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:*

varchar*Minimum Value: NAMaximum Value: NAMinimum Length:* 0*Maximum Length:* 30

Assay method id default(amDef): Used as default when a new measurement is created for this lab. See ID in AssayMethod table. Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at ph-esd_odm@ohri.ca *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Amicon filter, extract with MP96(amiMP96): Nucleaic acid extraction, usually used for the liquid fraction of a wastewater sample, using amicon filtration and using an MP96 for final extraction. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Amicon ultrafiltration(amiconUf): Amicon ultrafiltration NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

AND Boolean Aggregation(andBoo): "AND" aggreation. If all values in the aggregation is "TRUE" then the AND aggegation is also "TRUE". If all values in the aggregation is "FALSE" then the AND aggegation is also "TRUE". *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Any compartment set(anyCompartmentSet): A compartment set for measures and methods in any compartment. NA *Part Type:* set*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Any specimen set(anySpecimenSet): A specimen set that inculdes any specimen. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* anySpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Arrival temperature(arTemp): The temperature of a sample upon arrival at the laboratory for analysis. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* tempClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* temperatureUnitSet*Aggregation Scale ID:* see unit*Quality*

Set ID: genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Area proportional sample(areaPr): An area proportional sample. Used for surface testing. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* surfaceCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Use of the articV3 primer(articV3): Initial implementation of an ARTIC bioinformatics platform for nanopore sequencing of nCoV2019 novel coronavirus; Artic Foundation v3 primer. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* primerCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Use of the articV4 primer(articV4): Artic V4 sequencing primer for VOCs and VOIs. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* primerCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Assay ID(asId): Links with the AssayMethod used to perform the analysis. Use instrument.ID for measures that are not viral measures. Deprecated as of version 2, please avoid use. Refer to methodID

instead. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Attributes(attribute): An attribute of a domain, specimen, compartment, or reportTable. Attributes are one of the three main components or ways to report environment surviellence data. The other two components are measures and methods. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Trace levels of contamination(b): Analytical result may be subject to ?trace? levels of contamination; the target analyte was also detected in negative controls on the same run as the sample. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Branch sewer pipleline(bSwrPpl): Specifies a site type that is collection pipe that run lateral to other municpal sewer lines, allowing drainage into the main sewer. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set*

ID: naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Miscellaneous bacteria group(bactMisc): A group of measures/methods related to miscellaneous bacteria. The miscallenous bacteria are often have only one measure or method. When a bacteria has many measures, they will be given their own groupID in updated dictionary versions. *Part Type:* group*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* bactMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Bacteria unit set(bacterialUnitSet): Unit set for bacteria-related measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* bacteriaUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Bead beating, extract with MP96(bbMP96): Nucleaic acid extraction, usually used for solid fraction of a wastewater sample, using bead beating and using an MP96 for final extraction. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

bcov(bcov): Measure of the amount of bovine coronavirus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

bcov culture Spike Target(bcovCul): Cultured bovine coronavirus is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

bcov vaccine Spike Target(bcovVac): The bovine coronavirus vaccine is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Beef extract flocculation(beeExtractFloc): Beef extract flocculation. NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference

Link: NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Beta(beta): B.1.351 NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* who *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Biologic(bio): A living organism or biological substance. NA *Part Type:* domain*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Digital droplet emulsification PCR(bioRadDdpcr): Describes a PCR analysis done using BioRad's digital droplet emulsification PCR technology. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer network file link depreciated(blob): Link to a file that has any detailed information about the sewer network associated with the site (any format). NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Binary Large Object (BLOB) Data Type(blob): The data type for Binary Large Object (BLOB) data. Only used for the dictionary entries of parts. *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Breadth of coverage (>=5x depth)(boc): Positions with read depth greater or equal to 5. Report as percentage of positions. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

5-Day Carbonaceous Biochemical Oxygen Demand(bod5c): The?quantity?of?oxygen?utilized?for the biochemical?degradation?of?organic matter?under?standard?laboratory procedures?in five (5) days in the?presence of a?nitrification inhibitor,?expressed?in?milligrams per litre?(mg/l). NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* https://doi.org/10.1002/wer.1541*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Parts

5-day Total Biochemical Oxygen Demand(bod5t): 5 day total biochemical oxygen demand. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* https://doi.org/10.1002/wer.1541*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Boolean data type(boolean): The data type for boolean/binary data. Encoded as 'TRUE' or 'FALSE' *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Boolean aggregation set(booleanAggrSet): Aggreagation set for boolean. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Boolean value set(booleanValSet): Unit set that contains the valid possible values for a boolean measure (TRUE or FALSE). NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* NA*Aggregation Scale ID:* NA*Quality Set ID:*

genQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Bovine respiratory syncytial virus group(brsv): Bovine respiratory syncytial virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* virus-Misc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

brsv culture Spike Target(brsvCul): Cultured bovine respiratory syncytial virus (BRSV) is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

BRSV-N(brsvN): bovine respiratory syncytial virus capsid protein gene region NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

brsv vaccine Spike Target(brsvVac): The bovine respiratory syncytial virus (BRSV) vaccine is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Building cleanout(buildCO): Specifies a site type that is a capped pipe that connects to a building's main sewer line. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Collection date time(cDT): for grab samples this is the date, time and timezone the sample was taken. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Collection date time end(cDTEnd): For integrated time average samples this is the date, time and timezone the sample was finished being taken. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Collection date time start(cDTStart): For integrated time averaged samples this is the date, time and timezone the sample was started

being taken. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite key(cK): Composite key for a table. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tableCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Case report Date(caRepDate): Date that the numbers were reported publicly. Typically, reported data and this measure is most commonly reported and used. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* popDateTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Capacity unit set(capacityUnitSet): Unit set for capacity measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* capacityUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Category sets(catSet): The part type for category sets. Only used for the dictionary entries of parts. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Category Set ID(catSetID): The category set that corresponds to a given part. A set of categories used for a method or measure. Only applicable for categorical fields, and the categories that populate them. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Categorical Data Type(categorical): The data type for categorical data. Only used for the dictionary entries of parts. *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Categories(category): A category of a measure, method or attribute. A use-case example of categories would be how they are used to record the site where a measure is taken (partID = geoType). For the geoType attribute there are different type of sites where samples can be taken: a wastwater treatment plant, airplane holding tank, wastwater pumping station, etc. Each of these site types is recorded as a category that can be

identified in categorySetID = sTypeCatSets *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Long term acute care hospital(ccc): Acute care hospitals, or complex contuing care, that provide care for patients with average length of stay longer than 25 days. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Child day care(cdc): Child day care facility. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Degrees Celcius(cel): Degrees Celsius. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* -60*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Centrifugation(cent): Describes solid separation from a wastewater sample via centrifugation. Likely connected to other method steps

prior to analysis. NA *Part Type:* category*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Centricon ultrafiltration(centriconUf): Centricon ultrafiltration. NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Ceres nanotrap(ceres): Ceres nanotrap. NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

CFU per 100 ml(cfu): Colony forming units per 100 ml of filtered sample. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Changes column(changes): A column for recording the changes from a previous version. Use this column as a short-hand change log for dictionary development. *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Chemical(che): A chemical compound. NA *Part Type:* domain *Domain ID:* Che *Speciment ID:* anySpecimen *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Chemagic viral dna/rna 300 kit(chemVir): Nucleic acid extraction performed using the chemagic viral dna/rna 300 kit. NA *Part Type:* category *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* extractCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Child relationship(childRel): Indicated that this is a sample generated from (an)other sample(s) either because of pooling or sub-sampling. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* relationshipCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data*

Type: varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

City(city): The city where a site or organization is located; part of the address. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Clarified sample(clari): Clarified sample. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* spikeMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* sampleQualitySet *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Classes(class): A class is a collection of one or more related measures or methods within a group. A group can have one more more classes to describe different parts or the class. See partID = classID. *Part Type:* partType *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Class(classID): A unique identifier for a class, which is akin to a subgroup; it's a way of grouping parts within a given groupID. A group can have one or more classes to describe different parts of the class. Currently, class is only used for biologics. For example, SARS-CoV-2 is a group of

measures with the following classes of allele, variant, mutation, sequence, and protein. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Cloudy(cloudy): Qualitative category for the weather measure, specifying an overcast day with no rain. NA *Part Type:* category*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Centimetres(cm): Unit part for the SI unit of centimetres. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Carbon Dioxide(co2): A measure of an amount or concentraion of carbon dioxide. NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* dissGasUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Parts

Chemical Oxygen Demand(cod): Chemical oxygen demand. NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Collection group(colGrp): A group of measurement-like attributes related to sample collection. NA *Part Type:* group*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Collection Number(collNum): The number of subsamples that were combined to create the sample. Use NA for continuous, proportional or passive sampling. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Collection Period(collPer): Collection period. The time period over which the sample was collected, in hours. Alternatively, use collectionStart and collectionEnd. Examples: 1 hour, 6 hours, 24 hours *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

sampleQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Sample collection type(collType): Method used to collect the sample. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Sample collection category set(collectCatSet): The category set for sample collection. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Area proportional sample:(areaPr)

Composite grab sample of 3:(comp3)

Composite Grab Sample of 3 Depreciate:(comp3dep)

Composite 3hr grab sample:(comp3h)

Composite 3hr grab sample depreciate:(comp3hdep)

Composite 8hr Grab Sample Depreciated:(comp8)

Composite 8hr grab sample:(comp8h)

COSCa ball:(cosca)

Flow Proportional 24hr Sample:(flow24h)

Parts

Flow proportional sample:(flowPr)

Grab sample:(grb)

Holding Tank Wastewater Depreciated:(hoTaWa)

Moore swab passive sample:(moorSw)

Moore Swab Passive Sample Depreciated:(msps)

Other Collection Depreciated 2:(otco)

Representative Grab Sample:(repGrab)

Surface swab:(surfSw)

Time proportional sample:(timePr)

Time Proportional 24hr Sample:(tp24s)

Volume proportional sample:(volPr)

Colocated sample relationship(colocRel): Specifies a given sample is colocated to another sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Co-located Sample(colocated): Second or multiples samples collected at same location but different time (water, air) or at a nearby location (soil, sediment). Sent blind to laboratory. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Column name(columnName): Name for the column Depreciated in ODM version 2. Look-up tables are now incoprated into parts and sets. *Part Type:* attribute*Domain ID:* na*Domain Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite grab sample of 3(comp3): A grab-composite sample composed of 3 separate grab samples. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite Grab Sample of 3 Depreciate(comp3dep): A grab-composite sample composed of 3 separate grab samples. Deprecated in version 2, please do not use. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite 3hr grab sample(comp3h): A 3-hour composite with 3 grab samples each taken once per hour, generally manually performed. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

Parts

NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite 3hr grab sample depreciate(comp3hdep): A 3-hour composite with 3 grab samples each taken once per hour, generally manually performed. Deprecated in version 2, please do not use. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite 8hr Grab Sample Depreciated(comp8): An 8-hour composite with 8 grab samples each taken once per hour, generally manually performed. Deprecated in version 2, please do not use. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Composite 8hr grab sample(comp8h): A 8-hour composite with 8 grab samples each taken once per hour, generally manually performed. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Compartment(compID): The environmental entity from which a sample was taken for a given part. Compartments include: air, surface and water. Wastewater has componentID = water. Mostly applicable for measures, methods, units, and aggregations. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Compartment set(compSet): The set of valid compartments that apply to another given part. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Compartments(compartment): An substance from which a sample was taken. NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Confirmed Cases Case Report Date(conCase): Date that the numbers were reported publicly for a confirmed case. Typically, reported data and this measure is most commonly reported and used. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:*

NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* dateTime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Confirmed Cases Test Date(conTest): Date that the covid-19 test was performed for a confirmed case. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* dateTime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample concentrate(conc): Sample concentrate. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Water conductivity(cond): Measurement of conductivity of sample or site. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* conductivityUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Conductivity unit set(conductivityUnitSet): Unit set related to conductivity measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* conductivityUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Number of confirmed cases(conf): Number of confirmed cases. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Confirmed cases episode date(confEp): Episode date is the earliest of onset, test or reported date for a confirmed case. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* dateTime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Confirmed Cases Onset Date(confOn): Earliest that symptoms were reported for a confirmed case. This data is often not known and reported. In lieu, episode is used. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* dateTime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Contact ID(contID): A unique identifier for a given contact person. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:*

naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Contact name(contactName): Contact person or group, for the lab. Depreciated in ODM version 2. see 'name' *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Contact Table(contacts): The table that contains information about a contact; a person who is the contact of a site or laboratory. adapt from verson 1 documentation *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Contacts table column order(contactsOrder): Specifies the order of the columns in a Contacts table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of contacts table(contactsRequired): Specifies the columns required in a Contacts table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Correctional Facility(corFcil): Correctional facility NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

COSCa ball(cosca): COSCa passive sampling device. Use collectionPeriod to describe how many hours the ball was used to collect the sample *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* https://pubs.rsc.org/en/content/articlelanding/2021/ew/d1ew00207d*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Country(country): The country where a site or organization is located; part of the address. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Covid-19(cov): Covid-19 infection. Any form of Covid-19 human infetion - including testing for Covid-19, symptomatic Covid-19, asymptomatic Covid-19, hospitalized Covid-19, long-Covid-19, etc. If needed, define the specific form Covid-19 with units. See populationUnits. *Part Type:* measure*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* humanCompartment*Group ID:* sarsCov2*Class ID:* disease*Nomenclature ID:* ICD *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* populationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-B.1.1.7(covB117): Variant B.1.1.7 of the SARS-CoV-2 virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* pangolin *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-B.1.351(covB1351): Variant B.1.351 of the SARS-CoV-2 virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* pangolin *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-E(covE): SARS-CoV-2 E gene. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:*

naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-N1(covN1): SARS-CoV-2 nucleocapsid gene, allele 1. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-N2(covN2): SARS-CoV-2 nucleocapsid gene, allele 2. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-N3(covN3): SARS-CoV-2 nucleocapsid gene, allele 3. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-P.1(covP1): Variant P.1 of the SARS-CoV-2 virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class

Parts

ID: variant*Nomenclature ID:* pangolin *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

SARS-CoV-2-RdRp(covRdrp): SARS-CoV-2 RdRp gene. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Covid-19 Population Measure Date(cphDate): date of reporting for covid-19 measure. Depreciated in ODM version 2. The measure identication is now measureReportID with report dates as for any measure report. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Cphd ID(cphid): Unique identifier for the table. Depreciated in ODM version 2. The measure identication is now measureReportID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

110

crAssphage-N(cra): crAssphage virus capsid protein gene region NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Cycle threshold(ct): Cycle thresholds in a PCR assay. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Cumulative count(cuCo): Units for describing a population measure of a cumulative count of cases of a given disease. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Data custodian(custodyID): The data custodian of a database. Use Organization ID to populate this field, and the organizations table to describe contact information and other details for the data custodian. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

d377y delta-variant gene target(d377y): d377y delta-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

d3g omicron-variant gene target(d3g?): d3g omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

d63g delta-variant gene target(d63g): d63g delta-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

d796y omicron-variant gene target(d796y?): d796y omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnit-Set*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

d950n delta-variant gene target(d950n): d950n delta-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Daily count(daiCo): Units for describing a population measure of a daily count of new cases of a given disease. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Data types(dataType): The data type for a part. Data types used in the ODM include: varchar, booleen, float, category, date, time, datetime, url, email. dataType corresponds the the entry or cell within a data table, most commonly within a report table. If the data entry has a unit, then the dataType corresponds to the unit and the dataType refers to 'unit'. If the data entry is a category, then the dataType refers to 'category'. All categories are varchar. Otherwise the dataType is identifed within the part entry. TBA: dataType for dictionary. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set*

ID: NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Dataset ID(datasetID): The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables. Where possible, datasetID name should correspond the orignial data custodian responsible for generating environmental data. (suggestion for a default name convention.) *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Dataset Table(datasets): A report table for capturing details about data's parental data set and data custodians. Supplying attribution for data collectors. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Datasets table column order(datasetsOrder): Specifies the order of the columns in a Datasets table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of datasets table(datasetsRequired): Specifies the columns required in a Datasets table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Date(date): Date date on which the assayMethod was created or updated (for version update). *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Datetime Data Type(datetime): The data type for date and time data. Only used for the dictionary entries of parts. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

ddcov_e sars-cov-2 gene target(ddcovE): ddcov_e sars-cov-2 gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

ddcov_n sars-cov-2 gene target(ddcovN?): ddcov_n sars-cov-2 gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Deaths(death): Units for describing a population measure of patients who have died from a given cause. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

del 157/158(del 157S158): 157 or 158 deletion delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

del143/145?(del143S145?): 143 or 145 deletion omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see

unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

del2084/2084?(del2084S2084?): 2084 or 2084 deletion omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

del212/212?(del212S212?): 212 or 212 deletion omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

del3674/3676?(del3674S3676?): 3674 or 3676 deletion omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

del69/70?(del69S70?): 69 or 70 deletion omicron-variant gene target. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:*

see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Delta(delta): B.1.617.2 NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* variant *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Depreciated(depreciated): Indicator to say that a part is no longer in current use in the model. See partID = status NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* statusCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Derived sample(derived): Specifies a sample that is derrived or made from another sample or material. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* originCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Description(descr): A detailed description as an attirbute for describing results or program elements. A description of the part that serves a clear presentation of the part to a wide audience including techinical and not techincal staff. A description should allow any person who generates environment surveillance data to know how to identify how to record their data elements in the ODM. partReference can be used to further

describe a part. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 200

Description of change(descrChange): A description of change in a part from the previous verion NA *Part Type:* dictionary*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Desk or counter(desk): Desk, table, countertop or other flat working surface. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* surfaceCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Dewatered solids(deso): Dewatered solids. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Detected(det): Substance detected or not detected. 1 = detected, 0 = not detected *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpec-

imen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* boolean*Minimum Value:* 0*Maximum Value:* 1*Minimum Length:* NA*Maximum Length:* NA

Access to details(details): More details on the existing confidentiality requirements of this measurement. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Dilution factor(dilFact): Specifies the extent to which a sample or aliquot was diluted prioir to analysis. Dilution factor is reported as a unitless measure, where a value of 10 indicates a 10:1 dilution. *Part Type:* measure*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Disease (human)(disease): Specifies a collection of measures/methods related to disease or infection in humans. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* disease*Nomenclature ID:* ICD *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Dissolved gas concentration unit set(dissGasUnitSet): Unit set for carbon dioxide concentrations measurements in water or air. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* airWaterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* dissGasUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Depth of coverage(doc): The sequencing read depth. Used to interpret the confidence in a presence or amount of a varient. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Domains(domain): Domain is the highest level of describing of a measure. There are three domain types: biologic (i.e. Covid-19, chemical (i.e. nitrogen), physical measure (temperature). NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Domain ID(domainID): Domain is the highest level of describing of a measure. There are three domain types: biologic (i.e. Covid-19, chemical (i.e. nitrogen), physical measure (temperature). The domain ID that corresponds to a given part. Mostly applicable for measures, methods, units, and aggregations. *Part Type:* attribute*Domain ID:* naDomain*Speciment

Parts

ID: naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Higher education domitory or residential building(dorm): Higher education domitory or residential building NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

e156g delta-variant gene target(e156g): e156g delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

e484a omicron-variant gene target(e484a?): e484a omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Sarbecovirus-specific E sars-cov-2 gene target(eSarbeco): Sarbecovirus-specific E sars-cov-2 gene target NA *Part Type:* mea-

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sure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Escherichia coli(ecoli): Concentration of bacteria that are passed through the faecal excrement of humans, livestock and wildlife NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* siSaSpecimen *Compartment Set:* surfaceWaterCompartment *Group ID:* bactMisc *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* bacteriaUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Education(education): A measure or sample taken for education or training. Use this purpose, for example, when teaching how to use the PHES-ODM. *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* purposeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Contact email(email): Contact e-mail address, for the lab. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:*

varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Rainfall(envRnF): Rainfall, i.e. amount of precipitation in the form of rain. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* precipClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* precipitationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Ground Snow Depth(envSnwD): Total depth of snow on the ground. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* precipClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* precipitationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Snowfall(envSnwF): Snowfall, i.e. amount of precipitation in the form of snow. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* precipClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* precipitationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Episode Date(epiDate): Episode date is the earliest of onset, test or reported date. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* popDateTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference

Link: NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Estuary, natural water body(estuary): Estuary, natural water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Experiment Failed(expFail): PCR experiment failed. No value reported. Value should be blank for a measure with this qualityFlag value. *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Nucleic Acid Extraction CatSetegory Set(extractCatSet): CatSetegory set used for storing all the valid category values for the nucleic acid extraction method. NA *Part Type:* catSet*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

4s method:(4s)

Amicon filter, extract with MP96:(amiMP96)

Bead beating, extract with MP96:(bbMP96)

Parts

Chemagic viral dna/rna 300 kit:(chemVir)

Nuclisens automated magnetic bead extraction kit:(nucAuto)

Nuclisens manual magnetic bead extraction kit:(nucManu)

Phenol chloroform:(phenCl)

promega automated tna kit:(promAuto)

promega ht tna kit:(promHt)

promega manual tna kit:(promManu)

promega wastewater large volume tna capture kit:(promWW)

qiagen allprep dna/rna kit:(qgDNARNA)

qiagen ez1 virus mini kit v2.0:(qgEz1)

qiagen allprep powerfecal dna/rna kit:(qgPwrFecal)

qiagen allprep powerviral dna/rna kit:(qgPwrViral)

qiagen powerwater kit:(qgPwrWtr)

qiagen qiaamp buffers with epoch columns:(qgQiAmp)

qiagen rneasy kit:(qgRneasy)

qiagen rneasy powermicrobiome kit:(qgRneasyPwr)

Resuspend COSCa filter collection:(resCosca)

thermo magmax microbiome ultra nucleic acid isolation kit:(thermMag)

trizol, zymo mag beads w/ zymo clean and concentrator:(trizol)

zymo environ water rna kit/ zymo environ water rna kit (cat. r2042):(zymoEnv)

zymo quick-rna fungal/bacterial miniprep #r2014:(zymoQuick)

Nucleic acid extraction method(extraction): Description of the xtraction method. Description of the method used to extract the sample *Part Type:* method*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Extraction volume of sample(exvol): Extraction volume of sample. Size of the sample that is analyzed. *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Foreign key(fK): Foreign key for a table. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tableCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Fecal matter(faeces): Fecal matter. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

FALSE(false): Boolean data type = FALSE Use these values and their set for any boolean measure or attribute. Use only "FALSE" (case sensitive) *Part Type:* category*Domain ID:* naDomain*Speciment ID:* NA(maybe bug)*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value: ?Maximum Value: ?Minimum Length: ?Maximum Length: ?*

Inhibition present and unaddressed(fi): The original sample was inhibited; however, the inhibition has not been successfully addressed. Therefore, no concentration estimate has been reported. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Field sample(field): Specifies a sample taken from the field; directly collected from an area for testing. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* originCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Field duplicate sample relationship(fieldDupRel): Specifies a given sample is a field duplicate of another sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:*

NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Field sample replicate(fieldReplicate): A sample divided into two or more homogeneous parts. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

File(file): File containing the geometry of the polygon, blob format. Depreciated in ODM version 2. See geoEPSG and geoWKT *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* blob*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 65535

Filtration(filt): Describes solid separation from a wastewater sample via filtration. Proceeds further concentration or analysis of the liquid filtrate. NA *Part Type:* category*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

First name of contact(firstName): Specifies the first name of a given contact. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

First released version(firstReleased): The version in which a part was first released NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow-normalized mean(floMean): Mean measure normalized to wastewater flow; AlleleX (gc/mL) x Q (ML/d) / (Pop /1e5) x 1e3 (mL/L) x 1e6 (L/ML) = AlleleX (gc/day per 1e5 population) Mostly used for reporting specific alleles (N1, N2, E, etc.) *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Float Data Type(float): The data type for float data. Only used for the dictionary entries of parts. *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Floor(floor): Floor of a building or room. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* surfaceCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow Proportional 24hr Sample(flow24h): A flow proportional 24-hour composite sample generally collected by an autosampler. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow class(flowClass): Specifies a collection of measures/methods related to flow. NA *Part Type:* class*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* flowClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow proportional sample(flowPr): A flow proportionalcomposite sample generally collected by an autosampler. Use collectionPeriod to describe how many hours the sample was taken. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set

ID: sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow rate(flowRate): Wastewater volumetric flow rate at the sample collection location over the 24-hr period during which the sample was collected. If only an instantaneous flow measurement is available, it may be reported in units of million gallons per day. *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* siteFeat*Class ID:* flowClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* flowUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Volume flow rate unit set(flowUnitSet): Unit set for volume flow measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* flowUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Flow volume(flowVol): Volume of influent. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* siteFeat*Class ID:* flowClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* flowUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Influenza virus(flu): Any influenza virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:*

anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* http://purl.obolibrary.org/obo/MONDO_0005812*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Fluidigm digital PCR(fluiDpcr): Describes a PCR analysis done using FluidIGM's digital PCR technology. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Foggy(foggy): Qualitative category for the weather measure, specifying a foggy or hazy day. NA *Part Type:* category*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample fraction category set(fractionCatSet): CatSetegory set for the fraction of the sample (solid, liquid, etc.). NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* fractionCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Liquid fraction:(liq)

Parts

Mixed/homogenized sample:(mix)

Multiple fraction:(mul)

Solid fraction:(sol)

Fraction analyzed(fractionID): Fraction of the sample that is analyzed. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* fractionCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

F-Specific RNA bacteriophages(frna): A measure for amount of F-Specific RNA bacteriophages. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

F-Specific RNA bacteriophages, G2(frnaG2): A measure for amount of G2 F-Specific RNA bacteriophages. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Sample frozen(frozen): Sample was frozen before analysis or processing NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* saSpeci-

men *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* na-Class *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* sampleQualitySet *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Field sample temperature(fst): Temperature that the sample is stored at while it is being sampled. This field is mainly relevant for composite samples which are either kept at ambient temperature or refrigerated while being sampled. NA *Part Type:* measure *Domain ID:* Phy *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* tempClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* temperatureUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* float *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Funding agency(funderID): The funding agency of the dataset. Use Organization ID to populate this field, and the organizations table to describe contact information and other details for the funding agency. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* na-Group *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

g215c delta-variant gene target(g215c): g215c delta-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale*

ID: see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

g339d omicron-variant gene target(g339d?): g339d omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

g496s omicron-variant gene target(g496s?): g496s omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

g662s delta-variant gene target(g662s): g662s delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Gamma(gam): P.1 NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* who *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see

unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Gene Copies per Copy of crAssphage(gcCrA): Gene or variant copies per copy of crAssphage. NA *Part Type:* unit*Domain ID: Bio*Speciment ID: saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

gene copies per day per 100,000(gcD100): The unit for measures reflecting the gene copies per day per 100,000 people in the population. NA *Part Type:* unit*Domain ID: Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Gene Copies per Gram Solids(gcGs): Gene or variant copies per gram solids. NA *Part Type:* unit*Domain ID: Bio*Speciment ID:* saSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Gene Copies per L(gcL): Gene or variant copies per litre. NA *Part Type:* unit*Domain ID: Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set

ID: pcrQualitySet *Reference Link:* NA *Data Type:* integer *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Gene Copies per mL (gcMl): Gene or variant copies per millilitre of solution. NA *Part Type:* unit *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* quantAggScale *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* integer *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Gene Copies per PMMoV Copy (gcPpmov): Gene or variant copies per copy of PMMoV. NA *Part Type:* unit *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* waterCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* quantAggScale *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* integer *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Generic Quality Flag Set (genQualitySet): A the quality set for flags to indicate if there is a quality concern about a given generic measure or sample. 1 = quality concern, 0 = no quality concern. *Part Type:* set *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Genetics unit set (geneticUnitSet): Unit set for genetic-related measurements. NA *Part Type:* set *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticU-nitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

European Petroleum Survey Group Coordinates(geoEPSG): The unique EPSG code specifying a given geospatial area. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpeci-menSet*Compartment Set:* naCompartmentSet*Group ID:* miscAttr*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Latitude(geoLat): Geographical location, latitude in decimal coordinates, ie.: (45.424721) NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* miscAttr*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* -90*Maximum Value:* 90*Minimum Length:* NA*Maximum Length:* NA

Longitude(geoLong): Geographical location, longitude in decimal coordinates, ie.: (-75.695000) NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCom-partmentSet*Group ID:* miscAttr*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* -180*Maximum Value:* 180*Minimum Length:* NA*Maximum Length:* NA

Type of geography(geoType): Type of geography that is represented by the polygon. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* geoTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Geographic category set(geoTypeCatSet): CatSetegory set for different type of geographic components. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* geoTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Sewer Network Health Region:(hlthReg)

Sewer CatSetchment Area:(swrCatSet)

Well-known text(geoWKT): Well-known text of the polygon NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 63

Gram per cubic metre(gm3): Density unit. Used for absolute humidity and other measures. *Part Type:* unit*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* airCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:*

NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Geometric Mean(gmn): Geometric mean. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Government agency organization type(govt): The category of organization type used for government agencies, programs, or crown-owned bodies. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* orgTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Gravity settling(graSet): Describes solid separation from a wastewater sample where the sample material is allowed to settle by gravity, and then separated. NA *Part Type:* category*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Grams(grams): A unit of mass or weight. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit

Parts

Set ID: naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Grab sample(grb): A single large representative grab sample. Use collectionPeriod to describe how many hours the sample was taken. If the sample is a composite of grab samples, collectionNum to record the number of samples. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Groups(group): A collection of related measures. See partID = groupID. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Group(groupID): Unique identifier for a group of measures. Mostly applicable for measures, methods, units, and aggregations. A collection of related measures. For example, SARS-CoV-2 is a group. Within the SARS-CoV-2 group, there are measure classes tht include RNA alleles (N1, N2, E, etc.), mutations, (E484K0), an entire sequence, viral proteins, etc. Currently groups are used for measures only. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference

Link: NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Human compartment(h): A measure or observation made about a human. NA *Part Type:* compartment*Domain ID:* Bio*Speciment ID:* anySpecimen*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Header(header): Header for a table. Also known as a table variable or enitiy relationship 'attribute'. Header is the top row or the variable name in a table. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tableCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Health Planning Region(healthReg): The health planning authority where is site or insititute is located. See also `publicHealthDepartment` NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Heat inactivated sars-cov-2 virus Spike Target(heatInacSARS): Heat inactivated SARS-CoV-2 virus is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

hep g armored rna(hepGRna): Measure of the amount Hepatitis G Armored RNA. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virus-Misc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnit-Set*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

hep g armored rna Spike Target(hepGRnaMat): Hepatitis G armored RNA is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer Network Health Region(hlthReg): Health region served by the sewer network NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* geoTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Hand Measurement(hma): Handheld measurement analyzer. A handheld measurement analyzer. *Part Type:* category*Domain ID:*

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* insType-CatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Holding Tank Wastewater Depreciated(hoTaWa): Wastewater from a holding tank, such as from an airplane or ship Deprecated in version 2, please do not use. Duplicate of the sampleMat categories - refer to those. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Hollow fiber dead end ultrafiltration(hollowFiberUF): Hollow fiber dead end ultrafiltration NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

General Hospital Admissions(hosa): Hospital admissions or patients newly admitted to hospital. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Hospital Census(hosc): Hospital census or the number of people admitted with an ailment. NA *Part Type:* unit *Domain ID:* Bio *Speciment ID:* poSpecimen *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* integer *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Hospital(hosptl): Hospital NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* shedCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Holding tank wastewater(htSam): Wastewater sampled from a holding tank, such as from an airplane or ship NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* sampleMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Holding tank(htSite): Holding tank NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* siteTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Humidity class(humClass): Specifies a collection of measures/methods related to humidity. NA *Part Type:* class *Domain ID:* Phy *Speciment ID:*

siSpecimen*Compartment Set:* airCompartment*Group ID:* naGroup*Class ID:* humClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Human compartment set(humanCompartmentSet): A compartment set for measures and methods in the human compartment. NA *Part Type:* set*Domain ID:* Bio*Speciment ID:* anySpecimen*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

i1566v omicron-variant gene target(i1566v?): i1566v omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

i3758v omicron-variant gene target(i3758v?): i3758v omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

i82t delta-variant gene target(i82t): i82t delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpeci-

men*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Intensive care unit patients(icu): Units for describing a population measure of patients who are in intensive care due to a given cause. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Index(index): Index number in case the measurement was taken multiple times. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 50

Inhibition measure(inhibMes): Parameter to report whether or not inhibition was adetected in the sample. Binary measure - detected or no. *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* miscMeas*Class ID:* sequence*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* booleanUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Inhibition method(inhibMeth): Description of the method used to evaluate molecular inhibition. Description of the inhibition parameters. *Part Type:* method*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* measGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Innovaprep ultrafiltration(innovaprepUF): Innovaprep ultrafiltration NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Input(input): Input for a table. Indicates an allowable measure or method within an input table. `input` is used to indicate an allowable measure or method for a MeasureReport or MethodReport table. For example, covN1 is a specific measure that can be entered in the measureID field. Therefore, covN1 is has a value 'input' in the ReportTable column in the parts list. ODM users can generate their own custom template by modifying using the value 'input' for only the measures or methods that are applicable for their program. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tableCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Instrument Type(insType): Type of instrument used to perform the measurement. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment

Parts

ID: naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* insTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Instrument category set(insTypeCatSet): List of instruments that are used for measures and methods NA *Part Type:* catSet *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* insTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30 Categorical inputs for this part

Atline Analyzer:(aas)

Hand Measurement:(hma)

Other instrument:(instrumentTypeOther)

Lab Analysis:(ola)

Online Sensor:(onse)

Describe other instrument type, if applicable(insTypeOth): Description of the instrument in case it is not listed in instrumentType. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 100

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Instruments table column order(insrumentsOrder): Specifies the order of the columns in an Instruments table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Instrument ID(instID): A unique identifier for an instrument. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Other instrument(instrumentTypeOther): Type of instrument other than those included in the PHES-ODM. An other type of measurement instrument. Add description to notes. See documentation for how to request new instruments added to the dictionary. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* insTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Instrument Table(instruments): The table that contains information about instruments. adapt from verson 1 documentation *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe

bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Requirements of instruments table(instrumentsRequired): Specifies the columns required in an Instruments table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Integer Data Type(integer): The data type for integers. Only used for the dictionary entries of parts. *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

intercept(inter): Intercept value of the calibration curve. Used for storing calibration curve information, potentially also applicable for other curve types. *Part Type:* measure*Domain ID:* allDo*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Combined ip2 and ip4 sars-cov-2 gene target(ip2ip4): Combined ip2 and ip4 sars-cov-2 gene target NA *Part Type:* measure*Domain ID:*

Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Weak signal extrapolation(j): Analytical result falls below the lowest concentration of the experiment-specific standard curve but above the y-intercept value; the reported value is based on the extrapolation of the standard curve in the non-linear region. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

k856r omicron-variant gene target(k856r?): k856r omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Kilogram per second(kgS): Kilograms per second. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum*

Value: 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Kilolitres(kl): Kilolitres of volume NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Litres(l): Litres of volume NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

l452r delta-variant gene target(l452r): l452r delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

l981f omicron-variant gene target(l981f?): l981f omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Low breadth of coverage(lBC): The percentage of the genome covered by reads (ie the breadth) is low. If there are multiple issues to flage, use the multiple issues flag and explain the details in the notes section. *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Low depth of coverage(lDC): Poor coverage, ie. an insufficient number of reads or too many sequencing reads that are mapped incorrectly. If there are multiple issues to flage, use the multiple issues flag and explain the details in the notes section. *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Laboratory control duplicate relationship(labControlDupRel): Specifies a given sample is a laboratory control duplicate of another sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Laboratory control relationship(labControlRel): Specifies a given sample is a laboratory control to another sample. NA

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Parts

Part Type: category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lab ID default(labDef): Used as default when a new sample is created by this reporter. See ID in Lab table. Deprecated as of version 2, no defaults please specify. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Laboratory Duplicate(labDuplicate): Second (time or more) processing and analysis of sample. Usually for general chemistry or metals analyses. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lab ID(labID): Unique identifier for a laboratory. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Lagoon system(lagoon): Logoon system for extensive wastewater treatment NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lake, natural water body(lake): Lake, natural water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lambda(lamba): C.37 NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* who *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Language family(langFam): Specifies the language family of a given language for translation and language tracking purposes. Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

Language ID(langID): Language code for translation purposes. Specifies the langage for each translation, other than the default English. Follow the ISO639-3 codes for now. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Language name(langName): Specifies the name of the language in roman alphabet characters for translation and language tracking purposes. Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Language Look-up Table(languages): Look up table for all languages, used to give structure to the translation table. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* lookup*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Update Date - Last Edited(lastEdited): The date the entry was last updated. Use lastEdited if an entry is updated. Leave lastEdited blank or 'NA' for the first entry. Updates can include additions or revisions of the entry for any reason. For example, a wastewater measure was repeated later with an improved method. You can revise the entry by updating the value and then adding the date the new measure was

performed to 'lastEdited'. To ensure data provenance, the best practice in this example is to generate a new entry with the same measureID as the original measureID. The original and new measures are kept in the database with a date in the 'lastEdited' field for the new entry but not the original one. Some databases may choose a delete-and-replace approach where the original entry is deleted and replaced by a new entry. In this approach, the `lastEdited` field indicates the delete and replace occurred. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Last Name of Contact(lastName): Specifies the last name of a given contact. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Last updated date(lastUpdated): The date that the part was last updated. Any change to the part of list will result in an update in the lastUpdated field to the dictionary version where the update occurred. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

Latext expression(latExp): Latext expression used to generate math formulas for units. Only relevant for units, other parts will not have these. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 20

Laboratory Control Sample Duplicate(lcsd): Known amounts of an analyte or representative compounds are added to a second "clean" matrix (lab water or clean sand) in laboratory. Duplicate of LCS NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Leaked Sample(leaked): Sample leaked, some volume and material was lost. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Link(li): Link to an external reference that describes the geometry of the polygon. Deprecated as of version 2, please avoid use. Use referenceLink instead. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

License(license): The lience of a dataset. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Linear Scale Aggregation Set(linearAggrSet): The aggregation set that contains all aggregations that exist on the linear scale (rather than logorithmic or qualitative). NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Liquid fraction(liq): Liquid fraction of a sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* fractionCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Access to local ha(localHA): If this is 'no', the, data will not be available to local health authorities. If missing, data will be available to local health authorities. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Limit of detection (LOD)(lod): LOD Limit of detection (LOD) for this method if one exists. *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Limit of detection (LOD) - sewage(lodSewage): LOD for sewage samples NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Logarithmic Scale Aggregation Set(logAggrSet): The aggregation set that contains all aggregations that exist on the logarithmic scale (rather than linear or qualitative). NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCom-partmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Limit of quantification (LOQ)(loq): Loq Limit of quantification (LOQ) for this method if one exists. *Part Type:* measure*Domain ID:*

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naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Low-volume sample(lowVol): Sample is low-volume, but was run regardless. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lower limit of a 95% confidence interval(lowerCI95): Specifies the the lower limit of a 95% confidence interval. Should typically be linked to an upper limit, and some indication of data spread (ie. standard deviation), and a mean/median measure. *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Life technologies digital PCR(ltDpcr): Describes a PCR analysis done using Life Technologies' digital PCR technology. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Long-term care facility(ltcf): A residential healthcare facility that provides 24-medical care. These are also called skilled nursing facilities. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Long-term care - assisted living or retirement home(ltcfAl): A residential facility that provides assistance with daily care but generally does not provide skilled nursing care. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other long-term care(ltcfO): Other residential facilities that provide daily and/or medical care, but are not defined as nursing home/skilled nursing facilities or assisted living facilities. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lysis buffer(lysi): Lysis buffer. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompart-

mentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* spikeMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Cubic metres per day(m3D): Cubic metres per day. NA *Part Type:* unit *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* float *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Cubic metres per hour(m3H): Cubic metres per hour. NA *Part Type:* unit *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* float *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Cubic metres per second(m3S): Cubic metre per second. NA *Part Type:* unit *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* float *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Multiple issues(mI): Multiple issues have arisen in the sequencing process. When using the 'multiple issues' quality flag, please specify the issues and details in the notes section. *Part Type:* quality *Domain*

ID: naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Major sewer pipeline(mSwrPpl): Major sewer pipeline NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Maximum length(maxLength): The minimum length of a part. NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Maximum Value(maxValue): Highest value in a range of values. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Maximum value(maxValue): The maximum value of a part. NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpeci-

menSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Arithmetic Mean(me): Arithmetic mean. NA *Part Type:* aggregation *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Measurement group(measGrp): A group of measures that cannot be otherwise categorized. NA *Part Type:* group *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Other Measure(measOther): Other measure, not otherwise specified in measures. Add description to categoryOther. *Part Type:* measure *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Other Measure Description(measOtherDesc): Description of other measure (measOtherDesc). NA *Part Type:* measure *Domain ID:*

Parts

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 60

Measures(measure): An observation recorded from a specimen (i.e. a site, sample, person or population). NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Measure(measureID): A measurement or observation of any substance including a biological, physical or chemical substance. Measures are organized into groups and classes (sub-groups). *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Report ID(measureRepID): Unique identifier for a measurement. Report IDs cannot be repeated. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Measure Set Report Table(measureSets): The table that identifies sets of measures. Examples of measure sets include a set of replicates, dilutions (used to generate a Ct curve) or varients that are identified in a single sample. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Measure sets table column order(measureSetsOrder): Specifies the order of the columns in a Measure Sets table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of measure sets table(measureSetsRequired): Specifies the columns required in a Measure Sets table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Measure Report Table(measures): The table that contains information and details about a given measure adapt from verson 1 documentation *Part Type:* table*Domain ID:* naDomain*Speciment ID:*

naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* results *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Measures table column order(measuresOrder): Specifies the order of the columns in a Measures table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* integer *Minimum Value:* 1 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Requirements of measures table(measuresRequired): Specifies the columns required in a Measures table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Report Set ID(meaureSetRepID): Unique identifier that links together a group of related measures. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Median(med): Median. NA *Part Type:* aggregation *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCom-

partmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Normalized Arithmetic Mean(menr): Arithmetic mean, normalized. NA *Part Type:* aggregation *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Methods(method): A procedure or step that is performed to make a measure. For example, methodExtract is a method tht describes the how a sample was extracted. *Part Type:* partType *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Concentration method(methodConc): Description of the method to concentrate a wastewater sample. Description of the method used to concentrate the sample *Part Type:* method *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 100

Parts

Concentration method category set(methodConcCatSet): CatSe-teogry set for concentration methods. NA *Part Type:* catSet *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Method(methodID): A procedure for collecting a sample or performing a measure. dxc *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 10

Method Set Report Table(methodSets): The table that identifies sets of methods. NA *Part Type:* table *Domain ID:* naDomain *Speciment ID:* NA(maybe bug) *Compartment Set:* NA(maybe bug) *Group ID:* NA(maybe bug) *Class ID:* NA(maybe bug) *Nomenclature ID:* NA(maybe bug) *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA(maybe bug) *Unit Set ID:* NA(maybe bug) *Aggregation Scale ID:* NA(maybe bug) *Quality Set ID:* NA(maybe bug) *Reference Link:* NA(maybe bug) *Data Type:* NA(maybe bug) *Minimum Value:* NA(maybe bug) *Maximum Value:* NA(maybe bug) *Minimum Length:* NA(maybe bug) *Maximum Length:* NA(maybe bug)

Mehotd sets table column order(methodSetsOrder): Specifies the order of the columns in a Method Sets table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* NA(maybe bug) *Compartment Set:* NA(maybe bug) *Group ID:* NA(maybe bug) *Class ID:* NA(maybe bug) *Nomenclature ID:* NA(maybe bug) *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA(maybe bug) *Unit Set ID:*

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NA(maybe bug)*Aggregation Scale ID:* NA(maybe bug)*Quality Set ID:* NA(maybe bug)*Reference Link:* NA(maybe bug)*Data Type:* NA(maybe bug)*Minimum Value:* NA(maybe bug)*Maximum Value:* NA(maybe bug)*Minimum Length:* NA(maybe bug)*Maximum Length:* NA(maybe bug)

Requirements of method sets table(methodSetsRequired): Specifies the columns required in a Method Sets table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* NA(maybe bug)*Compartment Set:* NA(maybe bug)*Group ID:* NA(maybe bug)*Class ID:* NA(maybe bug)*Nomenclature ID:* NA(maybe bug) *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA(maybe bug)*Unit Set ID:* NA(maybe bug)*Aggregation Scale ID:* NA(maybe bug)*Quality Set ID:* NA(maybe bug)*Reference Link:* NA(maybe bug)*Data Type:* NA(maybe bug)*Minimum Value:* NA(maybe bug)*Maximum Value:* NA(maybe bug)*Minimum Length:* NA(maybe bug)*Maximum Length:* NA(maybe bug)

Method Steps Report Table(methodSteps): The table that identifies steps of methods. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Method Steps table column order(methodStepsOrder): Specifies the order of the columns in a Method Steps table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:*

Parts

NA(maybe bug)*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of method steps table(methodStepsRequired): Specifies the columns required in a Method Steps table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA(maybe bug)*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with acidification and mgcl2(mfAcidmgcl2): Membrane filtration with acidification and mgcl2 NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with acidification and mgcl2, membrane recombined with separated solids(mfAcidmgcl2SS): Membrane filtration with acidification and mgcl2, membrane recombined with separated solids NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with addition of mgcl2(mfMgcl2): Membrane filtration with addition of mgcl2 NA *Part Type:* category*Domain ID:*

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with mgcl2 and separated solids(mfMgcl2SS): Membrane filtration with addition of mgcl2, membrane recombined with separated solids NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with no amendment(mfNoAmend): Membrane filtration with no amendment NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with no amendment, membrane recombined with separated solids(mfNoAmendSS): Membrane filtration with no amendment, membrane recombined with separated solids NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference

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Link: NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with sample acidification(mfSampleAcid): Membrane filtration with sample acidification NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Membrane filtration with sample acidification, membrane recombined with separated solids(mfSampleAcidSS): Membrane filtration with sample acidification, membrane recombined with separated solids NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Milligrams per litre(mgL): Milligrams per litre. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Millions of gallons per day (MG/D)(mgd): A unit for measuring of design capacity for wastewater treatment plants, represented as millions of gallons per day. Also can be used to measure flow. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:*

naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Murine Hepatitis Virus(mhv): A measure for amount of murine hepatitis viurs. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Mininum length(minLength): The minimum length of a part. NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Minimum Value(minValue): Lowest value in a range of values. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Minimum value(minValue): The minimum value of a part. NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpeci-

menSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Miscellaneous attribute group(miscAttr): A group of miscellaneous measurement-like attributes. Examples of these would be longitude and latitude, or EPSG coordinates. *Part Type:* group*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Miscellaneous measure group(miscMeas): A group of measures that cannot be otherwise categorized. NA *Part Type:* group*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Missingness(missingness): The part type for missingness values. Only used for the dictionary entries of parts. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Mixed/homogenized sample(mix): Mixed or homogenized sample or fraction analyzed. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* fractionCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Millilitres(ml): Millilitres of volume NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Megalitres per day (ML/d)(mld): Megalitres per day. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Millimetres(mm): Unit part for the SI unit of millimetres. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Model(model): Model number or version of the instrument. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Moore swab passive sample(moorSw): Moore swab passive sample. Use collectionPeriod to describe how many hours the Moore swab was used to collect the sample *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Metres per second(ms): metres per second. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

ms2 coliphage(ms2Col): Measure of the amount of ms2 coliphage. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

ms2 coliphage Spike Target(ms2ColMat): ms2 coliphage is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Matrix Spike Duplicate(msd): A known amounts of an analyte or representative compounds are added in the laboratory to a second aliquot of the sample used for matrix spike. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Moore Swab Passive Sample Depreciated(msps): Moore swab passive sample. Deprecated in version 2, please do not use. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Mu(mu): B.1.621 NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:*

see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

murine coronavirus(muCo): Measure of the amount of murine coronavirus. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

murine coronavirus Spike Target(muCoMat): Murine coronavirus is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Multiple fraction(mul): Multiple fractions were analyzed separately and aggregated together post-analysis. This fractionID is intended for use for archival data and should not be used for newly added new moving forward (2022). Please also specify in the notes section which fractions were used for the multiple fractions (ex. solid and liquid) to avoid loss of information. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* fractionCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Multiple Purpose(multiple): A measure or sample taken for multiple purposes, not easily captured by the other purpose categories. Useful for parent samples where various subsamples will have different purposes/ *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Municipality(municp): A complete municipality, this specifies an entire metropolitan area, either a city, town, etc. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Mutations class(mutation): Specifies a collection of measures/methods related to mutations. NA *Part Type:* class*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

N sars-cov-2 gene target(n): N sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:*

see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Combined N1 and N2 sars-cov-2 gene target(n1n2): Combined N1 and N2 sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

n211i omicron-variant gene target(n211i?): n211i omicron-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

n679k omicron-variant gene target(n679k?): n679k omicron-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

n856k omicron-variant gene target(n856k?): n856k omicron-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

n969k omicron-variant gene target(n969k?): n969k omicron-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Ammonium Nitrogen(nH4N): Ammonium nitrogen concentration, as N. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Sarbecovirus-specific N sars-cov-2 gene target(nSarbeco): Sarbecovirus-specific N sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Not applicable(na): The field for which the expected value is not a property of the described object. Missing value indicator for missing data with no explanation. *Part Type:* missingness*Domain ID:* naDomain*Speciment

Parts

ID: naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aggregation not applicable(naAggr): Not applicable for aggregations. Used for parts for which an aggregation value is not applicable or appropriate. *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aggregation scale not applicable(naAggrScale): Not application for aggregation sets. Used for parts for which an aggregation scale value is not applicable or appropriate. *Part Type:* aggScale*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Aggregation set not applicable(naAggrSet): Not application for aggregation sets. Used for parts for which an aggregation set value is not applicable or appropriate. *Part Type: set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Class not applicable(naClass): Specifies a class for parts where a class is not applicable or appropriate. Use this for all parts that don't have classes (most non-measure or method parts) *Part Type:* class*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Compartment not applicable(naCompartment): Compartment not applicable. NA *Part Type:* compartment*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 13

Compartment set not applicable(naCompartmentSet): Compartment not applicable. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 13

Domain not applicable(naDomain): Not applicable. Use 'not applicable' when there is no domain for the part *Part Type:* domain*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set*

ID: NA Unit Set ID: naUnitSet *Aggregation Scale ID: NA Quality Set ID: NA Reference Link: NA Data Type:* varchar *Minimum Value: NA Maximum Value: NA Minimum Length:* 0 *Maximum Length:* 30

Group not applicable(naGroup): Used when there is no group; ie. groupID is not applicable. Use 'not applicable' when there is no group for the part *Part Type:* group *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID: NA Unit Set ID:* naUnitSet *Aggregation Scale ID: NA Quality Set ID: NA Reference Link: NA Data Type:* varchar *Minimum Value: NA Maximum Value: NA Minimum Length:* 0 *Maximum Length:* 30

Nomenclature not applicable(naNomenclature): Not applicable. Use 'not applicable' when there is no nomenclature for the part *Part Type:* nomenclature *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID: NA Unit Set ID:* naUnitSet *Aggregation Scale ID: NA Quality Set ID: NA Reference Link: NA Data Type:* varchar *Minimum Value: NA Maximum Value: NA Minimum Length:* 0 *Maximum Length:* 30

Specimen not applicable(naSpecimen): Non applicable specimen. Use 'not applicable' when there is no specimen/set for the part *Part Type:* specimen *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID: NA Unit Set ID:* naUnitSet *Aggregation Scale ID: NA Quality Set ID: NA Reference Link: NA Data Type:* varchar *Minimum Value: NA Maximum Value: NA Minimum Length:* 0 *Maximum Length:* 30

Specimen set not applicable(naSpecimenSet): A specimen set for when sepcimen/specimen set is not applicable. Use 'not applicable'

when there is no specimen/set for the part *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unit not applicable(naUnit): Not appliable for units. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unit set not applicable(naUnitSet): Not applicable for unit sets. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Name(name): Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity. Name of any entity. Use a prefix to distinguish names from different report tables. See fully specified name (FSN) list. i.e. Si-name = Site name, Po-name = Polygon name, Or-name = Organization name, Me-name = Method-name. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Not a number(nan): The outcome of a measurement is not a valid number (plus or minus infinity, error, …) Missing values indicator for when a numeric value is expected but not given. *Part Type:* missingness*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Native Name(natName): The native name of the language, i.e. what the language is called by its speakers. Part of the metedata for a languageID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Neighbourhood(neigh): A municipal neighbourhood, this specifies a sub-section of a larger municipality. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population of newly vaccinated persons(newVax): Population of newly vaccinated persons NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:*

naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

NextClade nomenclature(nextclade): Specifies variant or genetic nomenclature as set out by NextClade. NA *Part Type:* nomenclature*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Normalized Geometric Mean(ngmn): Geometric mean, normalized. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

niid_2019-ncov_n sars-cov-2 gene target(niid2019ncovN): niid_2019-ncov_n sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

No quality concerns for PCR(noConcernPCR): No quality concerns of note for the PCR reaction. NA *Part Type:* quality*Domain ID:*

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample not labelled(noLabel): Sample had no label NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample missing time stamp(noTime): Sample is missing the autosampler time; incomplete metadata on collection. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

No liquid concentration, liquid recombined with separated solids(noliquid): No liquid concentration, liquid recombined with separated solids NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Nomeclature(nomenclature): A classification system to report the measure class. See partID = nomenclatureID. *Part Type:* partType*Domain*

ID: naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Nomenclature(nomenclatureID): A classification system to report the measure class. Only applicable to variants, mutations, and diseases. Currently only used for class = variant, mutation, or disease. Valid options are currently restricted to 'NextClade', 'Pangolin', 'WHO', or 'ICD'. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Non-detected(nondet): Unit ID for when a measure is "non-detect" in order to explain a value of zero. Use this unit in cases where a measure resulted in no detection *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* 1*Minimum Length:* NA*Maximum Length:* NA

Norovirus G1(noroG1): Norovirus genogroup 1 NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimenSet*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum*

Value: see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Norovirus G2(noroG2): Norovirus genogroup 2 NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimenSet *Compartment Set:* anyCompartment *Group ID:* virusMisc *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Notes(notes): A note used to describe details that are not captured in other attrbitutes There is no recommended structure of a note. Use notes as needed. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 200

Not reported(nr): A value could have been recorded, however, it was not. Missing value indicator for data that is absent because it was not reported. *Part Type:* missingness *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Nephelometric turbidity unit(ntu): Nephelometric Turbidity Units, a unit used in the measurement of turbidity (see "turbidity" under measureIDs). Nephelometric turbidity units (NTU) are based on white light (400?680nm) and 90? incident angle. *Part Type:* unit *Domain ID:*

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* https://www.sciencedirect.com/topics/engineering/nephelometric-turbidity-unit*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Nuclisens automated magnetic bead extraction kit(nucAuto): Nucleic acid extraction performed using the nuclisens automated magnetic bead extraction kit. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Nuclisens manual magnetic bead extraction kit(nucManu): Nucleic acid extraction performed using the nuclisens manual magnetic bead extraction kit. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Null(null): A logical reprentation of a statement that is neither TRUE nor FALSE Missing value indicator when the value is neither TRUE nor FALSE. *Part Type:* missingness*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Water sample type(nww): Non-wastewater, coming from any kind of water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other Collection Depreciated(oCol): Other type of collection method. Add description to collectionOther. Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at ph-esd_odm@ohri.ca *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

coronavirus OC43(oc43): Measure of the amount of coronavirus OC43. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

oc43 Spike Target(oc43Mat): Human coronavirus OC43 is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:*

naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Ocean, natural water body(ocean): Ocean, natural water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Lab Analysis(ola): Offline laboratory analysis. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* insTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Omicron(omicr): B.1.1.529 NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Onset Date(onsDate): Earliest that symptoms were reported for this case. This data is often not known and reported. In lieu, episode is used. NA *Part Type:* category*Domain ID:* naDomain*Speciment*

Parts

ID: naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* popDateTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* datetime *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Online Sensor(onse): Online sensor An online sensor *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* insTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Ontology reference(ontologyRef): Ontology reference for a part. This field contains a link to an existing ontology reference for the part. ODM content spans several existing ontologies. ODM does not strive to generate a new ontology, rather ODM seeks to harmonize and extend dictionaries for application in environmental and public health surveillance. *Part Type:* partSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 200

Orthophosphates(ophos): Ortho-phosphate concentration. NA *Part Type:* measure *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:*

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see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

OR Boolean Aggregation(orBoo): "OR" aggreation. If *any* value in the aggregation is "TRUE" then the OR aggegation is also "TRUE". If *all* values in the aggregation is "FALSE" then the OR aggegation is also "FALSE". *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Other residential building(orb): Individual residential buildings or institutions not captured in other categories NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

ORF1a sars-cov-2 gene target(orf1a): ORF1a sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

ORF1ab sars-cov-2 gene target(orf1ab): ORF1ab sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

ORF1b sars-cov-2 gene target(orf1b): ORF1b sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Organization ID(orgID): A unique identifier for the organization to which the reporter is affiliated. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Organization type category set(orgTypeCatSet): The category set for storing organization types. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Organization Type(orgTypeID): Specifies the type or purpose of a given organization. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Organization Type Table(organizationTypes): The table that contains information about organization types adapt from verson 1 documentation *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Organization Table(organizations): The table that contains information about a laboratory. adapt from verson 1 documentation *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Organizations table column order(organizationsOrder): Specifies the order of the columns in a Organizations table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Parts

Requirements of organizations table(organizationsRequired): Specifies the columns required in a Organizations table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample origin(origin): An attribute of a sample specifying the origin. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample Origin CatSetegory Set(originCatSet): The category set for storing the valid categorical values of sample origin. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other Collection Depreciated 2(otco): Other type of collection method. Add description to collectionOther. Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at phesd_odm@ohri.ca *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other aggregation scale(othAgg): Specifies an aggregation scale that can't be described as either "qualitative" or "quantAggScale". NA *Part Type:* aggScale*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other aggregation set(otherAggrSet): Aggregation set used for unitless measures. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other Aggregation(otherDep): Other aggregation method. Add description to aggregationOther Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at phesd_odm@ohri.ca *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see

unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Access to other prov(otherProv): If this is 'no', this data will not be available to other data providers not listed before. If missing, data will be available to other data providers not listed before NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Other Site Depreciated(otsiDep2): Other site type. Add description to typeOther NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other Site Depreciated 2(otsiDep2): Other type of site. Add description to typeOther. Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at phesd_odm@ohri.ca *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Other Unit(otun): Other measurement of viral copies or wastewater treatment plant parameter. Add description to UnitOther. Deprecated as of version 2, please avoid use. Specify in type, or contact the PHES-ODM research team to add your specific item via a github issue (https://github.com/Big-Life-Lab/PHES-ODM/issues), or at ph-esd_odm@ohri.ca *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Outbreak(outb): Measure to indicate outbreak status. Given that when outbreaks occur, full data on case counts may not be available or completely accurate, using this measure indicates that case counts may be approximate. The datetime for the measure helps indicate that start and end periods for an outbreak. *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* outbreakCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Outbreak End(outbEnd): Indicates an outbreak has ended. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* outbreakCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

Outbreak On-going(outbOngoing): Indicates an outbreak is on-going. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* outbreakCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Outbreak start(outbStart): Indicates an outbreak began. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* outbreakCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Outbreak category set(outbreakCatSet): CatSetegory set for the valid values of the outbreak measure. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* outbreakCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Outbreak End:(outbEnd)

Outbreak On-going:(outbOngoing)

Outbreak start:(outbStart)

p100l delta-variant gene target(p100l): p100l delta-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:*

naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* na-Group *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

p2046l delta-variant gene target(p2046l): p2046l delta-variant gene target NA *Part Type:* measure *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

p2287s delta-variant gene target(p2287s): p2287s delta-variant gene target NA *Part Type:* measure *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

p3395h omicron-variant gene target(p3395h?): p3395h omicron-variant gene target NA *Part Type:* measure *Domain ID:* naDo-main *Speciment ID:* naSpecimenSet *Compartment Set:* naCompart-mentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

p681r delta-variant gene target(p681r): p681r delta-variant gene target NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Postal or Zip Code(pCode): The zip code or postal code for a given address, specifying a specifc geographic area. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Primary clarifier effluent(pEfflu): Effluent obtained after primary clarifiers NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Public Health Department or Region(pHDept): The public health department or region where the site or institute is located. See also `healthRegion` if there is a separate regional health care delivery authority. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data*

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Primary key(pK): Primary key for a table. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tableCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Primary clarifier sludge(pSludge): Sludge produced by primary clarifiers NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Pumping Station(pStat): Pumping station NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Pangolin nomenclature(pangolin): Specifies variant or genetic nomenclature as set out by the Phylogenetic Assignment of Named Global Outbreak Lineages (Pangolin). NA *Part Type:* nomenclature*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parent sample ID(parSampID): If this sample has been pooled into one big sample for analysis this indicates the sample of the larger pooled sample. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parent Site ID(parSiteID): The siteID that is a parent to another siteID; usually the sub-site will be contained in the parentSite. An example would be surface testing in a LTC facility. The LTC facility would be the parentSiteID, and the various rooms/surfaces would be the sub-sites, or child-sites. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Part Description(partDesc): Description of the part Provides description of the part, used for tranlsation. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Part ID(partID): The unique identify of any enity within the dictionary. Every entity in the ODM has a partID. The partID must be unique with

no duplcates. partIDs are short. partIDs that are constructed by different part attributes can be up 28 characters (check max), but each part attibute should be 1 to 5 characters. partIDs are machine readible, but a knowledgable user can understand what they represent. partID are used, for example, as a header in an Excel input table. Numbers are allowed but there no other special characters other than `_`. `_` is a reserved character that is used to generate a partID using a compoent or table attributes. A partID for a subComponent is automatically generated using attributes of a component. For example, the partID for the compoent `SARS-CoV-2` is `covid`. `Covid` can have many subComponents including different groups (Covid-19-al, Covid-19-va, ovid-pr (allele, variant or protein) or units and aggregatrions (i.e. covid-al-N1-mean-cpl representing ovid allele N1, mean observation of viral copies per litre of effluent). A similar approach to naming subComponent is use for naming parts in a reprotTable. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 28

Part Instruction(partInstr): Additional notes and instructions on how a part is used and/or defined. NA *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 200

Label(partLabel): A human readible label of a part. Typically, a part label has no acrynomns (every word is spelled out). Equivalent to a LOINC common name. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:*

naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Part types (partType): Part types describe the purpose or use of the part. Enivornment data has three main part types: measure (i.e. covN1 viral measures, wasteawater flow rate, temperature), method (e.g. how the measure was taken), and attribute (such as a site name). See description of each of the part types within categorySetID = partTypeCatSets. *Part Type:* partType *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 15

Parts Look-up Table (parts): Look up table containing all parts in of the data model. Contains all parts, including self-referential parts. *Part Type:* table *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* lookup *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Primary Clarifier Effluent Depreciated (pce): Effluent obtained after primary clarifiers. Deprecated in version 2, please do not use. Duplicate of the sampleMat categories - refer to those. *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* sampleMat-

CatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

PCR method(pcr): Description of the PCR method. Description of the PCR method used *Part Type:* method *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* measGrp *Class ID:* sequence *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* pcrCatSet *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 100

PCR Method CatSetegory Set(pcrCatSet): The category set capturing containing all of the valid methods for the PCR methodID. NA *Part Type:* catSet *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* pcrCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30 Categorical inputs for this part

Digital droplet emulsification PCR:(bioRadDdpcr)

Fluidigm digital PCR:(fluiDpcr)

Life technologies digital PCR:(ltDpcr)

qiagen digital PCR:(qgDpcr)

Quantitative PCR:(qpcr)

Raindance digital PCR:(rainDpcr)

PCR Quality Set(pcrQualitySet): Quality set for PCR measures. NA *Part Type:* set *Domain ID:* naDomain *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* naGroup *Class*

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Primary Clarifier Sludge Depreciated(pcs): Sludge produced by primary clarifiers. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Polyethyleneglycol (PEG) precipitation(peg): Peg precipitation NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Percent(perc): Percentage. NA *Part Type:* unit*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Percent Recovery(percRec): Percent of the surrogate recovery for a recovery efficiency control assay. Use this for reporting the results of any recovery control assay. *Part Type:* unit*Domain ID:* naDomain*Speciment*

ID: saSpecimen *Compartment Set:* anyCompartment *Group ID:* na-Group *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* integer *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 100

pH(ph): pH measurement NA *Part Type:* measure *Domain ID:* Phy *Speciment ID:* siSaSpecimen *Compartment Set:* anyCompartment *Group ID:* miscMeas *Class ID:* standardConc *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* unitlessUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* float *Minimum Value:* 1 *Maximum Value:* 14 *Minimum Length:* NA *Maximum Length:* NA

Access to phac(phac): If this is 'no', the data will not be available to employees of the Public Health Agency of Canada - PHAC. If missing, data will be available to employees of the Public Health Agency of Canada - PHAC. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* na-Group *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* boolean *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 1

Phenol chloroform(phenCl): Nucleic acid extraction performed using phenol chloroform. NA *Part Type:* category *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* extractCatSet *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Pseudomonas virus phi6(phi6): Measure of the amount of pseudomonas virus phi6. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

phi6 Spike Target(phi6Mat): Pseudomonas virus phi6is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Contact phone(phone): Contact phone number, for the lab. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 10*Maximum Length:* 12

Total Phosphorous(phos): Total phosphorous NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Total Phosphates(phostot): Total phosphates NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* water-Compartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Physical property(phy): A physical property or object not characterized by life or chemistry. NA *Part Type:* domain*Domain ID:* Phy*Speciment ID:* anySpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Physical class(physical): Specifies a collection of measures/methods related to generic physical properties. NA *Part Type:* class*Domain ID:* Phy*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

PMMoV- and flow-normalized mean(pmFloMean): Mean measure normalized to amount of PMMoV and wastewater flow; AlleleX (gc/mL) x Q (ML/d) / (Pop /1e5) x 1e3 (mL/L) x 1e6 (L/ML) = AlleleX (gc/day per 1e5 population) Mostly used for reporting specific alleles (N1, N2, E, etc.) *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation

Scale ID: quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

PMMoV-normalized mean(pmmovNorm): Mean measure normalized to amount of PMMoV. Mostly used for reporting specific alleles (N1, N2, E, etc.) *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Population(po): An aggregated public health measure. NA *Part Type:* specimen*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population specimen set(poSpecimenSet): A specimen set that inculdes only a population specimen. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Post-Grit Depreciated(pogr): Raw wastewater after a treatment plant's headworks. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomen-

clature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMat-CatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Polygon Population(polyPop): An attribute of a polygon, which specifies the population of that polygon. A rough estimate of the number of human residents. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Polygon ID(polygonID): Unique identifier for the polygon. A polygon is a geographic are representing the capment area of an environmental sample. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Polygon Table(polygons): The table that contains information about the geometry of a geographic area. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Polygons table column order(polygonsOrder): Specifies the order of the columns in a Polygons table. NA *Part Type:* tableSupport*Domain ID:*

naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* integer *Minimum Value:* 1 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Requirements of polygons table(polygonsRequired): Specifies the columns required in a Polygons table. NA *Part Type:* tableSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Pooled(pooled): Is this a pooled sample, and therefore composed of multiple child samples obtained at different sites NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* boolean *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 1

Type of date for case reporting(popDateType): Type of date used for confirmed cases. Typically, report or episode are reported. Onset and test date is not usually reported within aggregate data. NA *Part Type:* attribute *Domain ID:* Bio *Speciment ID:* poSpecimen *Compartment Set:* humanCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* popDateTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum*

Value: NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Case reporting date category set(popDateTypeCatSet): CatSetegory set for the date of case reporting. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* popDateTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Case report Date:(caRepDate)

Episode Date:(epiDate)

Onset Date:(onsDate)

Test Date:(tesDate)

Population equivalents(popEq): A unit for measuring of design capacity for wastewater treatment plants, represented as the approximate amount of water a signle person would use. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Population group(popGrp): A group of measures/methods related to population-level factors. Examples might be case numbers, hospitalization rates, etc. *Part Type:* group*Domain ID:* allDo*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* popGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe

bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population Served(popServ): An attribute of a site, which specifies the population of/population served by a given site. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population class(population): Specifies a collection of population-level measures/methods. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* population*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population unit set(populationUnitSet): Unit set for hospital-related measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* populationUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Percent positive(pp): Percent positive of sample measures. Can use for Moore swabs, etc. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

parts per million(ppm): Parts per million. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

PMMoV-CP(ppmv): Pepper mild mottle virus capsid protein gene region NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Percent positivity rate(pprt): Percent positivity rate of tests conducted within a day in a given region. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Percent Primary Sludge(pps): Percentage of total solids, for primary sludge. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Precipitation class(precipClass): Specifies a collection of measures/methods related to precipitation. NA *Part Type:* class*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* precipClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Precipitation Unit Set(precipitationUnitSet): Unit set for percipitation measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* precipitationUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Pretreatment(pretreat): Was the sample chemically treated in anyway with the addition of stabilizers or other Pretrement method can be describe using a method. See methodID. *Part Type:* method*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tfCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Genetic primer(primer): Method ID used for indicating the primer used for a PCR or sequencing assay. NA *Part Type:* method*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group

ID: measGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* primerCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Genetic primer category set(primerCatSet): The category set for genetic primers used in sequencing or PCR assays. NA *Part Type:* catSet *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* primerCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30 Categorical inputs for this part

Use of the articV3 primer:(articV3)

Use of the articV4 primer:(articV4)

Private sector organization type(priv): The category of organization type used for private sector or non-profit groups that are not otherwise captured by the academic category. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* orgTypeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 10

Processing group(procGrp): A group of measures/methods related to processing samples for analysis. NA *Part Type:* group *Domain ID:* allDo *Speciment ID:* siSaSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* NA *Reference*

Parts

Link: NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Program decription tables class(programDescr): Specifies a class for report tables to indicate that they are program description tables. Used o better specify the purpose of report tables, distinct from other classes in this way. *Part Type:* class*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescription*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

promega automated tna kit(promAuto): Nucleic acid extraction performed using the promega automated tna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

promega ht tna kit(promHt): Nucleic acid extraction performed using the promega ht tna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

promega manual tna kit(promManu): Nucleic acid extraction performed using the promega manual tna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:*

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naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

promega wastewater large volume tna capture kit(promWW): Nucleic acid extraction performed using the promega wastewater large volume tna capture kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Proportion of total(prop): Proportion as a precent of total. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Proportion of variant in sample(propV): Proportion of a variant as percent of total variants. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Protein class(protein): Specifies a collection of measures/methods related to proteins. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class

ID: protein*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol ID(protocolID): A unique identifier for a given protocol. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Organization Table(protocolOrg): The table that contains the organizational information and details (such as order) about a given protocol, recorded as a series of protocol steps (protocolSteps). Protocols are a group of related protocol steps. For example a protocol step can describe a sample concentration, extraction, inhibition or a measurement. Protocols can include both methodID (a proceedure) and measureIDs (a measure). An example of a method is centrifugation; where the centriguation rotation speed is described as a measure. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* lookup*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Organization ID(protocolOrgID): Unique identifier for the organizing of a protocol and its steps. Protocol Organization ID is a composite key generated by combining Protocol ID (protocolID) and step Index (stepIndexID). *Part Type:* attribute*Domain*

ID: naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Protocol Steps Table(protocolSteps): The table for collecting metadata on individual steps in a protocol, methodological process, or assay. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Steps table column order(protocolStepsOrder): Specifies the order of the columns in a Protocol Steps table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of the Protocol Steps table(protocolStepsRequired): Specifies the columns required in a Protocol Steps table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:*

varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Version(protocolVersion): Specifies the version of a method set. Version of the method set. Semantic versioning is recommended. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Access to prov ha(provHA): If this is 'no', this data will not be available to provincial health authorities. If missing, data will be available to provincial health authorities. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Provisional report(provisional): A provisional or interm report. Use for measurement that are not yet finalized. Typically this purpose is not publicly reported. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Post-grit(pstGrit): Raw wastewater after a treatment plant's headworks (post grit or removal of large solids at a treatment plant but priort to a primary clarifier) NA *Part Type:* category*Domain ID:* naDomain*Speciment

ID: naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* sampleMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Pre treatment description(ptDesc): If preTreatment then describe the treatment that was performed. Deprecated in version 2, please do not use. Use pretreatment methodID and specify further in summary and/or notes, if necessary. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnit-Set *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 255

Number of positive tests(ptot): Number of positive tests conducted within a day in a given region. NA *Part Type:* unit *Domain ID:* Bio *Speciment ID:* poSpecimen *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* integer *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Access to public(public): If this is 'no', this data will not be available to the public. If missing, data will be available to the public. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:*

boolean*Minimum Value: NA**Maximum Value: NA**Minimum Length:* 0*Maximum Length:* 1

Puro virus(puro): Measure of the amount of puro virus. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Puro virus Spike Target(puroMat): Puro Virus is used as the recovery efficiency control target. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample or Measure Purpose CatSetegory Set(purposeCatSet): CatSetegory set for the purpose of the sample or measure. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Education:(education)

Multiple Purpose:(multiple)

Provisional report:(provisional)

Quality control:(qualityControl)

Regular:(regular)

Testing:(testing)

Validation study:(validationStudy)

Purpose(purposeID): The reason the measure or sample was taken. See allowed categories: report, quality control, validation study, test *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

q19e omicron-variant gene target(q19e?): q19e omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

q493r omicron-variant gene target(q493r?): q493r omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

q498r omicron-variant gene target(q498r?): q498r omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

q954h omicron-variant gene target(q954h?): q954h omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Quaility assurance method(qaqc): Quality ass qc Description of the quality control steps taken *Part Type:* method*Domain ID:* naDomain*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

No quality concerns(qf1): A flag to indicate there is are no quality concern about the measure or sample. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* 1*Maximum Value:* 1*Minimum Length:* NA*Maximum Length:* NA

Quality concerns(qf2): A flag to indicate there is a quality concern, not otherwise sepcified. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* 0*Maximum Value:* 0*Minimum Length:* NA*Maximum Length:* NA

qiagen allprep dna/rna kit(qgDNARNA): Nucleic acid extraction performed using the qiagen allprep dna/rna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen digital PCR(qgDpcr): Describes a PCR analysis done using Qiagen's digital PCR technology. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen ez1 virus mini kit v2.0(qgEz1): Nucleic acid extraction performed using the qiagen ez1 virus mini kit v2.0. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen allprep powerfecal dna/rna kit(qgPwrFecal): Nucleic acid extraction performed using the qiagen allprep powerfecal dna/rna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen allprep powerviral dna/rna kit(qgPwrViral): Nucleic acid extraction performed using the qiagen allprep powerviral dna/rna kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen powerwater kit(qgPwrWtr): Nucleic acid extraction performed using the qiagen powerwater kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen qiaamp buffers with epoch columns(qgQiAmp): Nucleic acid extraction performed using the qiagen qiaamp buffers with epoch columns. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen rneasy kit(qgRneasy): Nucleic acid extraction performed using the qiagen rneasy kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

qiagen rneasy powermicrobiome kit(qgRneasyPwr): Nucleic acid extraction performed using the qiagen rneasy powermicrobiome kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quantitative PCR(qpcr): Real-time PCR, also called 'quantAggScale' PCR NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Qualitative(qual): The "qualAggScale" aggregation scale. NA *Part Type:* aggScale*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* qualAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quality measures(quality): The part type for quality parts. Only used for the dictionary entries of parts. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* any-Compartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Quality control(qualityControl): A measure or sample taken for the purpose of quality control. Measures with this category are take to assess quality control. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quality Flag(qualityFlag): A field for reporting any quality concerns - of lack thereof - for a sample or measure. Types of quality flag vary on context; please see the qulaityFlagSet to be confirm. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* all*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quality Report ID(qualityID): A unique identifier for a given quality report. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quality Reports Table(qualityReports): The table for recording the various quality metrics and indicators for samples and measures. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quality Set ID(qualitySetID): The quality set that corresponds to a given part. Only applicable for samples and measures. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Quantitative(quant): The "quantAggScale" aggregation scale. NA *Part Type:* aggScale*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:*

varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

R squared(r2): R-squared value of the calibration curve. Used for storing calibration curve information, potentially also applicable for other curve types. *Part Type:* measure *Domain ID:* allDo *Speciment ID:* siSaSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* float *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

r203m delta-variant gene target(r203m): r203m delta-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Rate per 100,000(rP100): Units for describing a population measure of a rate of case incidence per 100,000 people of a given disease. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit *Domain ID:* Bio *Speciment ID:* poSpecimen *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* quantAggScale *Quality Set ID:* NA *Reference Link:* NA *Data Type:* float *Minimum Value:* 0 *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Raindance digital PCR(rainDpcr): Describes a PCR analysis done using Raindance's digital PCR technology. NA *Part Type:* category *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:*

naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* pcrCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Rainy(rainy): Qualitative category for the weather measure, specifying a rainy day. NA *Part Type:* category*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Ratio(ratio): Ratio (unitless) Report as a real number or fration. i.e 10:2 ratio is reported as 5. The specifics of the ratio (the numerator and the demoninator) are described in the measure. *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Raw sewage at site(rawWW): Wastewater without any form of treatment NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Raw sewage downstream from a site(rawWWdown): Downstream from a site. See partType = rawWWup. NA *Part Type:* category*Domain

ID: naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* water-Compartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Raw sewage upstream from a site(rawWWup): Upstream from a site. Used when there is not direct access to a site's wastewater inconjuctiion with downstream sample. For example, if the site is a long-term care home, but ther is not access to the building or property cleanout. Use two sameple, one sample upstream and one sample downstream. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Raw wastewater Sample(raws): Raw wastes water sample NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

IP2 rdrp sars-cov-2 gene target(rdrpNcovIP2): IP2 rdrp sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:*

see unit*Quality Set ID:* pcrQualitySet*Reference Link: NA Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

IP4 rdrp sars-cov-2 gene target(rdrpNcovIP4): IP4 rdrp sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Date sample recieved(recDate): The date the sample was received at the laboratory for analysis. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Recovered patients(recov): Units for describing a population measure of patients who have recovered from a given disease. Unit for a population or disease measure to explain population-level clinical effects. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Reference link(refLink): Link to the reference material for a part. May link to literature on a method, measure, etc. Link to standard operating procedure for a measure or part. Part reference is a reference to a technical

document that describes the part in detail. The reference could be a URL, DOI, or reference to a techincal report. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 255

Regular(regular): A measure or sample taken for surveillance or epidemiology. A 'regular' measure is the default. Missing data will be recoded to this purpose. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Relative humidity(relHum): The unit of relative humidity, or the air-water mixture. The ratio of the partial pressure of water vapor in the mixture to the equilibrium vapor pressure of water over a flat surface. of pure water at a given temperature. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* humClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* relHumidUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Relative humidity unit set(relHumidUnitSet): Unit set for relative humidity measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Ref-*

erence: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* relHumidUnit-Set*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Relationship category set(relationshipCatSet): Category set for valid values of sample relationship. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Matrix spike duplicate sample relationship:(SpikeDupRel)

Child relationship:(childRel)

Colocated sample relationship:(colocRel)

Field duplicate sample relationship:(fieldDupRel)

Laboratory control duplicate relationship:(labControlDupRel)

Laboratory control relationship:(labControlRel)

Relationship(relationshipID): Attribute for specifying the relationship between related samples. Together with `sampleIDSub` and `relationshipID` the row of the `sampleRelationships` should say: [sampleIDSubject] is a[relationshipID] of [sampleIDObject] *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* relationshipCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Parts

Representative Grab Sample(repGrab): A single large representative grab sample. Deprecated in version 2, please do not use. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Replicate Type(repType): Attirbute of a sample, specifying whether the sample is unique, or a replicate. And if it is a replicate, what type of replicate is it? NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Replicate Type CatSetegory Set(replicateCatSet): The category set for storing valid categorical values of replicate type. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Co-located Sample:(colocated)

Field sample replicate:(fieldReplicate)

Laboratory Duplicate:(labDuplicate)

Laboratory Control Sample Duplicate:(lcsd)

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Matrix Spike Duplicate:(msd)

Unique Sample:(unique)

Report Date(reportDate): The date a measure was reported. This date is the first date the laboratory or enity reported the measure findings to the public health or other enity who ordered the measure or is responsible for action. Use the analyses end date if the measure is part of a research study or other purpose that does not have a reporting entity. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Reportable data flag(reportable): Flag for whether a measure is reportable or not, based on confidence in the measure and methods applied. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Reporter ID(reporterID): Unique identifier for the person or organization that is reporting the data. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Reporter ID Depreciated(reporterIDDep): Unique identifier for the entity reporting the data NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Reporter table(reporters): The table that contains information about a reporter of a sample, method, measure, or attribute. NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Resuspend COSCa filter collection(resCosca): Nucleic acid extraction via resuspension of a sample collected using the COSCa ball method. See partID = cosca for additional details. *Part Type:* category*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 10

Results tables class(results): Specifies a class for report tables to indicate that they are results tables. Used only to better specify the purpose of report tables, distinct from other classes in this way. *Part Type:* class*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation*

Scale ID: see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Retention pond(retPond): Retention pond NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

River, natural water body(river): River, natural water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Role of Contact(role): Specifies the organizational role of a given contact. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Raw post-pasteurized wastewater(rppw): Raw wastewater sample post-pasteurization NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:*

spikeMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Respiratory syncytial virus group(rsv): Respiratory syncytial virus. NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* virusMisc *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* http://purl.obolibrary.org/obo/NCIT_C14267 *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Surface compartment(s): A measure or observation made from a substance on a surface. NA *Part Type:* compartment *Domain ID:* allDo *Speciment ID:* anySpecimen *Compartment Set:* surfaceCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 1

s2083i omicron-variant gene target(s2083i?): s2083i omicron-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

s371l omicron-variant gene target(s371l?): s371l omicron-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:*

see unit *Quality Set ID:* pcrQualitySet *Reference Link: NA Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

s373p omicron-variant gene target(s373p?): s373p omicron-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link: NA Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

s375f omicron-variant gene target(s375f?): s375f omicron-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link: NA Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

s477n omicron-variant gene target(s477n?): s477n omicron-variant gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link: NA Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Sparse coverage(sC): Sequencing shows sparse coverage, ie. numerical breadth of coverage shows as adequate but coverage plots reveal missing genome pieces. If there are multiple issues to flage, use the multiple issues flag and explain the details in the notes section. *Part Type:* quality *Domain*

ID: naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* seqQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Secondary clarifier effluent(sEfflu): Effluent obtained after secondary clarifiers NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

S sars-cov-2 gene target(sGene): S sars-cov-2 gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* allele*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Secondary clarifier sludge(sSludge): Sludge produced by secondary clarifiers NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Storage temp(sTemp): Temperature that the sample is stored at in Celsius. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpeci-

men *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* tempClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* temperatureUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* genQualitySet *Reference Link:* NA *Data Type:* float *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Sample(sa): A measure made on a compartment or property from a sample of a substance. NA *Part Type:* specimen *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Sample material(saMaterial): Type of sample. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* sampleMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Sample specimen set(saSpecimenSet): A specimen set that inculdes only a sample specimen. NA *Part Type:* set *Domain ID:* naDomain *Speciment ID:* saSpecimen *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Sample ID(sampleID): Unique identifier for a sample. Suggestion:siteID-date-index. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample ID Object(sampleIDObj): Populated by `sampleID` - this specifies the object of a sample relationship. Use `sampleID` for this field. Together with `sampleIDSub` and `relationshipID` the row of the `sampleRelationships` should say: [sampleIDSubject] is a[relationshipID] of [sampleIDObject] *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample ID Subject(sampleIDSub): Populated by `sampleID` - this specifies the subject of a sample relationship. Use `sampleID` for this field. Together with `sampleIDSub` and `relationshipID` the row of the `sampleRelationships` should say: [sampleIDSubject] is a[relationshipID] of [sampleIDObject] *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample material category set(sampleMatCatSet): CatSetegory set for the types of material that can be found in a sample. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:*

sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Air filtration unit:(afu)

Desk or counter:(desk)

Fecal matter:(faeces)

Floor:(floor)

Holding tank wastewater:(htSam)

Water sample type:(nww)

Primary clarifier effluent:(pEfflu)

Primary clarifier sludge:(pSludge)

Primary Clarifier Effluent Depreciated:(pce)

Primary Clarifier Sludge Depreciated:(pcs)

Post-Grit Depreciated:(pogr)

Post-grit:(pstGrit)

Raw sewage at site:(rawWW)

Raw sewage downstream from a site:(rawWWdown)

Raw sewage upstream from a site:(rawWWup)

Secondary clarifier effluent:(sEfflu)

Secondary clarifier sludge:(sSludge)

Secondary Clarifier Effluent Depreciated:(sce)

Secondary Clarifier Sludge Depreciated:(scs)

Septic tank wastewater:(septage)

Parts

Sewer Sediments:(sese)

Other surface:(surface)

Sewer sediment:(swrSed)

Water depreciated:(water)

Sample Quality Set(sampleQualitySet): Quality set for a sample. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample Relationships Table(sampleRelationships): Table for recording the relationships between samples. Specifically designed to capture information on parent-child relationships between samples, and allow for tracking sample lineage for single and pooled samples. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Collection other(sampleTypeOther): Description for other type of method not listed in collection. NA *Part Type:* method*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Sample Report Table(samples): The table that contains information about a sample, where a sample is defined as a representative volume of wastewater, air, or surface substance taken from a Site which is then analysed by a lab (organization). NA *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* results*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Samples table column order(samplesOrder): Specifies the order of the columns in a Samples table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of samples table(samplesRequired): Specifies the columns required in a Samples table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sampleshed(samshed): A geographic area, physical space, or structure. A sample is taken from a sampleshed for a representative measurement of a substance(s). Examples: Airplane, Long-term care home, Neighbourhood, University campus, Municipality *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:*

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naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

SARS-CoV-2(sarsCov2): A group of measures/methods related to the SARS-CoV-2 virus. SARS-CoV-2 measures have the following classes: proteins, alleles, variants, mutations, diseases. *Part Type:* group*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* http://purl.obolibrary.org/obo/NCIT_C169076*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

SARS-CoV-2 measure(sarscov2Me): Measure the amount of SARS-CoV-2 virus. This measure should only be used if there is no other SARS-CoV-2 measure. See groupID = sarsCov2. Use a note to describe the specific measure used. *Part Type:* measure*Domain ID:* Bio*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Secondary Clarifier Effluent Depreciated(sce): Effluent obtained after secondary clarifiers. Deprecated in version 2, please do not use. Duplicate of the sampleMat categories - refer to those. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:*

NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

School(school): A school serving students in the kindergarten to 12th grade range NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Secondary Clarifier Sludge Depreciated(scs): Sludge produced by secondary clarifiers. Deprecated in version 2, please do not use. Duplicate of the sampleMat categories - refer to those. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Standard Deviation(sd): Standard deviation. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Normalized Standard Deviation(sdn): Standard deviation, normalized. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Sea, natural water body(sea): Sea, natural water body NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Access to self(self): If this is 'no', this data will not be shown on the portal when this reporter logs in. If missing, data will be available to this reporter. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* boolean*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Date sample was sent(sentDate): The date the sample was sent for analyses at a laboratory. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Septic tank(septTnk): Septic tank NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomen-

clature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteType-CatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Septic tank wastewater(septage): Wastewater from within a septic tank NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sequencing Quality Set(seqQualitySet): Quality set for sequencing measures NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* seqQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Genetic sequencing class(sequence): Specifies a collection of measures/methods related to genetic sequencing. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* sequence*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer Sediments(sese): Sediments obtained in sewer. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category*

Set ID: sampleMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Sets(set): Sets of parts. Sets are lists of input values. Each input value within a set is a part (has a partID) that can be reused between sets. For example, a set A could contain the values of 'yes' and 'no'; and set B could contain the values of 'yes', 'no', and 'maybe.' partTypes with sets include aggregations, compartments, missingness, quality flags, specimens, and units. Measures with categories and dataTypes have their own specific category sets (catSetID) because their input values are unique and are not reused. *Part Type:* partType *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 15

Set ID(setID): The name of a value set. A set is a group of units, attributes, categories, specimens, or compartments that can be used for a measure, method or attribute. *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 28

Set type(setType): The type of set. I.e. quality set, aggregation set, unit set NA *Part Type:* partSupport *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology*

Reference: NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Set Value(setValue): The partID for the set value or category. Populated by any part where partType = aggregationSet, compartmentSet, qualitySet, specimentSet, or unitSet *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sets Look-up Table(sets): Look up table for all sets, managing how categorical inputs for various methods and attributes are grouped together. This table manages many-to-many relationships and category recycling within the ODM. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* lookup*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Settled solids(settsol): Amount of settled solids from a wastewater sample. May be a volume or a weight, see the unitID for a given measure row for details on a given sample. *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Sampleshed CatSetegory Set(shedCatSet): The category set for all valid values of sampleshed. NA *Part Type:* catSet *Domain ID:* naDomain *Speciment ID:* siSpecimen *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Ship(ship): A cruise ship or other ship. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* anyCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* shedCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Shipped on ice(shipOnIce): Was the sample kept cool while being shipped to the lab NA *Part Type:* method *Domain ID:* naDomain *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* tfCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 1

Site(si): A measure made on a compartment or property at a site where a sample was taken. NA *Part Type:* specimen *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

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Site or sample specimen set(siSaSpecimenSet): A specimen set that inculdes site or sample specimen. NA *Part Type: set**Domain ID:* naDomain*Speciment ID:* siSaSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site specimen set(siSpecimenSet): A specimen set that inculdes only a site specimen. NA *Part Type: set**Domain ID:* naDomain*Speciment ID:* siSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Single(sin): This value is not an aggregate measurement in any way (ie. not a mean, median, max or any other) and can be a replicate value. NA *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Site ID default(siteDef): Used as default when a new sample is created by this reporter. See ID in Site table. Deprecated in version 2, please do not use. Just populate standard SiteID. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site features group(siteFeat): A group of environmental measures/methods and those pertaining to the features of a site. NA *Part Type:* group*Domain ID:* allDo*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site ID(siteID): Unique identifier for the location where a sample was taken. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site measure ID(siteMeasureID): Unique identifier for wide table only. Use when all measures are performed on a single sample. Depreciate in version 2. siteMeasures *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site category set(siteTypeCatSet): CatSetegory set for the type of sampling site. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set*

ID: naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Branch sewer pipleline:(bSwrPpl)

Building cleanout:(buildCO)

Estuary, natural water body:(estuary)

Holding tank:(htSite)

Lagoon system:(lagoon)

Lake, natural water body:(lake)

Major sewer pipeline:(mSwrPpl)

Other Collection Depreciated:(oCol)

Ocean, natural water body:(ocean)

Other Site Depreciated:(otsiDep2)

Other Site Depreciated 2:(otsiDep2)

Pumping Station:(pStat)

Retention pond:(retPond)

River, natural water body:(river)

Sea, natural water body:(sea)

Septic tank:(septTnk)

Stabilization pond:(stabPnd)

Sewage truck:(swgTrck)

Upstream sites:(upstream)

Wastewater Treatment Plant:(wwtp)

Parts

Back-up wastewater treatment site:(wwtpBack)

Industrial wastewater treatment plant:(wwtpInd)

Municipal wastewater treatment plant for combined sewage:(wwtpMuC)

Municipal wastewater treatment plant for danitary dewage only:(wwtpMuS)

Site Type(siteTypeID): Type of site or institution where sample was taken. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Site Table(sites): The table that contains information about a site; the location where an environmental sample was taken. The site of an eviromental sample. Information in the site table does not regularly change. Consider using the MeasureReport table if the infomation changes often. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* programDescr*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sites table column order(sitesOrder): Specifies the order of the columns in a Sites table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

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NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Requirements of sites table(sitesRequired): Specifies the columns required in a Sites table. NA *Part Type:* tableSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Skimmed milk flocculation(skimMilkFloc): Skimmed milk flocculation NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

slope(slope): Slope value of the calibration curve. Used for storing calibration curve information, potentially also applicable for other curve types. *Part Type:* measure*Domain ID:* allDo*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer network file link depreciated 2(snfl): Link to a file that has any detailed information about the sewer network associated with the site (any format). Depreciate in version 2. This attribute has been changed to referenceLink. Use po_referenceLink to specify polygon link to sewer network file. *Part Type:* attribute*Domain ID:* naDomain*Speciment*

ID: naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Snowy(snowy): Qualitative category for the weather measure, specifying a snowy day. NA *Part Type:* category *Domain ID:* Phy *Speciment ID:* siSpecimen *Compartment Set:* anyCompartment *Group ID:* siteFeat *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* weathCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Solid fraction(sol): Solid fraction of a sample. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* fractionCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Solid seperation(solidSep): Process used to separate solid and liquid phases of the sample. Solid seperation is used either prior to or in the absence of the concentration method specified in 'methodConc'. *Part Type:* method *Domain ID:* naDomain *Speciment ID:* saSpecimen *Compartment Set:* waterCompartment *Group ID:* procGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* solidSeparationCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Solid separation category set(solidSeparationCatSet): CatSetegory set for the separation of solids. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* solidSeparationCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Centrifugation:(cent)

Filtration:(filt)

Gravity settling:(graSet)

Membrane filtration with acidification and mgcl2:(mfAcidmgcl2)

Membrane filtration with acidification and mgcl2, membrane recombined with separated solids:(mfAcidmgcl2SS)

Membrane filtration with addition of mgcl2:(mfMgcl2)

Membrane filtration with mgcl2 and separated solids:(mfMgcl2SS)

Membrane filtration with no amendment:(mfNoAmend)

Membrane filtration with no amendment, membrane recombined with separated solids:(mfNoAmendSS)

Membrane filtration with sample acidification:(mfSampleAcid)

Membrane filtration with sample acidification, membrane recombined with separated solids:(mfSampleAcidSS)

No liquid concentration, liquid recombined with separated solids:(noliquid)

Source Protocol(sourceProtocol): A protocol that served as a basis for another protocol. This may be due to version changes, or a referencing

a protocol that was later adapted. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol step source(sourceStep): Specifies the protocol step which serves as a basis for a given protocol step. Populate with a protocol step ID (stepID) *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Specific humidity(specHum): Measure for specific humidity, the unit is the ratio of the mass of water vapour and the mass of total air. NA *Part Type:* measure*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* specHumidUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Specific humidity unit set(specHumidUnitSet): Unit set for specific humidity. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* specHumidUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference

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Link: NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Specimen Set(specSet): The set of valid specimens that apply to another given part. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Specimens(specimen): The substance upon which the observation was made. See partID = specimentID *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Specimen(specimenID): The substance or thing upon which the observation was made. Specimens include: site, sample, person and population. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Spike Material(spikeMat): Material into which the recovery efficiency control target is spiked. NA *Part Type:* method*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:*

Parts

spikeMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID: NA*Quality *Set ID: NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 4

CatSetegories of spikeMat(spikeMatCatSet): CatSetegories for spike-Mat (aterial into which the recovery efficiency control target is spiked). NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID: NA*Quality Set ID: NA*Reference Link: NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Clarified sample:(clari)

Sample concentrate:(conc)

Dewatered solids:(deso)

Lysis buffer:(lysi)

Raw wastewater Sample:(raws)

Raw post-pasteurized wastewater:(rppw)

Recovery Efficiency Spike Target(spikeTarget): Method specifying the recovery efficiency control target. This matches on to the the spike material method ID. Should typically be indexed as a step proceeding the spikeMaterial methodID step. *Part Type:* method*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* measGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID: NA*Quality Set ID: NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Recovery Efficiency Spike Target CatSetegory Set(spikeTargetCatSet): The category set capturing containing all of the valid categories for the recovery efficiency control (or spike) target. NA *Part Type:* catSet*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* spikeTargetCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

bcov culture Spike Target:(bcovCul)

bcov vaccine Spike Target:(bcovVac)

brsv culture Spike Target:(brsvCul)

brsv vaccine Spike Target:(brsvVac)

Heat inactivated sars-cov-2 virus Spike Target:(heatInacSARS)

hep g armored rna Spike Target:(hepGRnaMat)

ms2 coliphage Spike Target:(ms2ColMat)

murine coronavirus Spike Target:(muCoMat)

oc43 Spike Target:(oc43Mat)

phi6 Spike Target:(phi6Mat)

Puro virus Spike Target:(puroMat)

Sample spilled(spill): Sample contents spilled from container. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Social services shelter(sss): Other type of social services shelter NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Stabilization pond(stabPnd): Specifies a site type which is a pond designed and built for wastewater treatment to reduce the organic content and remove pathogens from wastewater. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Standard concentration class(standardConc): Specifies a collection of measures/methods relating to standard conentrations. NA *Part Type:* class*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

State, Province, or Region(stateProvReg): The state, province, or region where a site or organization is located; part of the address. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Status(status): Whether the part is still active and can be used in the most current ODM version. Values are 'active' or 'inactive'. The status of the part or list. 'active' means the part is used in the dictionary version. 'inactive' means the part has been retired and not longer used in the version. *Part Type:* partSupport*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* statusCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Status category set(statusCatSet): A category set for partID = Status to indicate whether a part is in current use or not. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Standard concentration unit set(stdConcentrationUnitSet): Unit set for concentration measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Step ID(stepID): The unique identifier for a specific protocol step. Protocol Steps are the component parts of a larger protocols, the latter being linked to specific measure reports. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Step Index ID(stepIndexID): Specifies the index (order) of a protocol step within a protocol, i.e. the order of the steps in a protocol. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* integer*Minimum Value:* 1*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Method Step Parent ID(stepProvenanceID): A method step that served as a basis for another method step. This may be due to version changes, or a referencing a method set that was later adapted. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Protocol Step Version(stepVer): Specifies the version of a given protocol step. Version of the method step. Semantic versioning is recommended. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:*

naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 50

Storage time(stoTim): Length of time that a sample was in storage. NA *Part Type:* measure*Domain ID:* allDo*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Sewer network file blob(storTempDef): A file blob that has any detailed information about the sewer network associated with the site (any format). Deprecated in version 2, please do not use. Refer to WKT and EPSG instead. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* blob*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 65535

Sub- Protocol ID(subProtocolID): If protocols are connected or related, they can be nested together by specifying which protocols are nested in a given protocol as a "sub-protocol". Populate this field using Protocol ID (protocolID). *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data

Parts

Type: varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sub-variant or lineage(subvar): A unit used to report a specific genetic lineage, or to specify that a reported variant is a sub-variant of another. Use in combination with a variant measure ID to specify parentage; eg: measureID = Omicron, value = BA.2, unit = subvar *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Summary(summ): Short description of the assay and how it is different from the other assay methods. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 255

Sunny(sunny): Qualitative category for the weather measure, specifying a clear and sunny day. NA *Part Type:* category*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Surface swab(surfSw): Surface swab. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* surfaceCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:*

collectCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Other surface (surface): Surface other than floor or desk. See also categories for floor and desk. *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* surface-Compartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* sampleMatCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Surface compartment set (surfaceCompartmentSet): A compartment set for measures and methods in the surface compartment. NA *Part Type:* set *Domain ID:* allDo *Speciment ID:* anySpecimen *Compartment Set:* surfaceCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 15

Surface and water compartment set (surfaceWaterCompartmentSet): A compartment set for measures and methods in the surface or water compartments. NA *Part Type:* set *Domain ID:* allDo *Speciment ID:* anySpecimen *Compartment Set:* surfaceWaterCompartment *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 15

Sewage truck (swgTrck): Sewage truck NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* waterCompartment *Group ID:* colGrp *Class ID:* naClass *Nomenclature ID:* naNomen-

clature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteType-CatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer CatSetchment Area(swrCatSet): Sewer catchment area. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* geoTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sewer sediment(swrSed): Sediments obtained in sewer NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Synthetic sample(synthetic): Specifies a synthetic, or artificially derrived sample. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* originCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

t19r delta-variant gene target(t19r): t19r delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe

bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

t3646a delta-variant gene target(t3646a): t3646a delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

t547k omicron-variant gene target(t547k?): t547k omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

t9i omicron-variant gene target(t9i?): t9i omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Tube weight empty(tWeightE): The weight of the tube used for analysis while full of analyte. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimenSet*Compartment Set:* anyCompartment*Group ID:*

procGrp*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Tube weight full(tWeightF): The weight of the tube used for analysis while empty. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimenSet*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Tables(table): The part type for tables, which store the records of measures, methods and attributes to facilitate reporting. An example of a table is `site` a collection of attributes such as site name and address to describe where environment samples are taken. PHES-ODM has report tables, but users can create their own tables as well. *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Table column category set(tableCatSet): The category set for valid inputs in table columns. These categories are used in the parts list for columns named after tables to indicate the position and function of a given part in the entity relationship diagram of the data model. *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set*

ID: tableCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* categorical *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30 Categorical inputs for this part

Composite key:(cK)

Foreign key:(fK)

Header:(header)

Input:(input)

Primary key:(pK)

TaqPath N sars-cov-2 gene target(taqpathN): TaqPath N sars-cov-2 gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

TaqPath S sars-cov-2 gene target(taqpathS): TaqPath N sars-cov-2 gene target NA *Part Type:* measure *Domain ID:* Bio *Speciment ID:* saSpecimen *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Temperature(temp): Temperature of the sample measured in degrees Celcius NA *Part Type:* measure *Domain ID:* Phy *Speciment ID:* siSaSpecimen *Compartment Set:* anyCompartment *Group ID:* miscMeas *Class ID:* tempClass *Nomenclature ID:* naNomenclature *Ontology Reference:*

Parts

NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* temperatureUnit-Set*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Temperature class(tempClass): Specifies a collection of measures/methods related to temperatures. NA *Part Type:* class*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* tempClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Nucleic acid template volume(tempVol): The volume of DNA or RNA template used for PCR. NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Temperature unit set(temperatureUnitSet): Unit set for temperature measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* temperatureUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Test Date(tesDate): Date that the covid-19 test was performed. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:*

NA(maybe bug)*Category Set ID:* popDateTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* datetime*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Number of tests performed(test): Number of tests performed. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Testing(testing): A measure or sample taken to test a new method. These measures are typically used for internal lab uses and not reported to external partners. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* purposeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

True-False CatSetegory Set(tfCatSet): CatSetegory set for boolean or binary attributes, containing true and false. Set is used for any boolean attribute or measure. *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* anySpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* tfCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

thermo magmax microbiome ultra nucleic acid isolation kit(thermMag): Nucleic acid extraction performed using the thermo magmax microbiome ultra nucleic acid isolation kit. NA *Part Type:*

category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Time proportional sample(timePr): A time proportionalcomposite sample generally collected by an autosampler. Use collectionPeriod to describe how many hours the sample was taken. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* water-Compartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Total Kjeldahl Nitrogen(tkn): A measure of Total Kjeldahl Nitrogen; ie. the sum of nitrogen bound in organic substances, nitrogen in ammonia (NH3-N) and in ammonium (NH4+-N) in the chemical analysis of soil, water, or waste water. NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Total Nitrogen(tn): Total nitrogen concentration, as N. NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation*

Scale ID: see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Time Proportional 24hr Sample(tp24s): A time proportional 24-hour composite sample generally collected by an autosampler. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Translation Look-up Table(translations): Look up table for translations of the description, label, and instruction for all parts. The default language if a translation is not specified is English. *Part Type:* table*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* lookup*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

trizol, zymo mag beads w/ zymo clean and concentrator(trizol): Nucleic acid extraction performed using the trizol, zymo mag beads w/ zymo clean and concentrator method. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

TRUE(true): Boolean data type = TRUE Use only "TRUE" (case sensitive) *Part Type:* category*Domain ID:* naDomain*Speciment ID:*

naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* na-Group*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnit-Set*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* ?*Maximum Value:* ?*Minimum Length:* ?*Maximum Length:* ?

Total Solids Concentration(ts): Total solids concentration NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnit-Set*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Total Suspended Solids(tss): Total suspended solids NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Concentration of Total Suspended Solids(tssConc): Total suspended solids concentration of the wastewater. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Tubidity(turb): A measure for the turbidity of water, or a liquid sample, quanitfying the relative clarity or opcaity of a liquid. Highly indicative of water quality. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* turbidityUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Turbidity unit set(turbidityUnitSet): Unit set for turbidity measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* turbidityUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Type other Depreciate(tyOtDep): Description for other type of sample not listed in NA *Part Type:* method*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

Type other Depreciate2(tyOtDep2): Description of the site when the site is not listed. See siteType. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:*

NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 100

University campus(uCampus): Universityor college campus - comprising an entire campus or part of a campus. See also 'Higher Education Domitory". *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* shedCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Micro-Siemens per centimetre(uSCm): Micro-siemens per centimetre. NA *Part Type:* unit*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

U site measure ID(uSiteMeasureID): Unique identifier for each measurement for a site. Deprecated in version 2, please do not use. MeasureID will be associated with site, with site specified as the specimen as well. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 12

Undisclosed(undisc): A value has been recorded, however it was not included in the dataset. Missing value indicator for data that has not been shared or disclosed with outside parties. *Part Type:* missingness*Domain*

ID: naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unique Sample(unique): A unique sample, not duplicated. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* replicateCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Units(unit): Unit of the measurement. NA *Part Type:* partType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unit(unitID): The units of a measurement. Different units that are used to describe measurement values. Units are combined into UnitSetIDs. Please requests new units by creating an issue in the ODM repository. *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unit Set ID(unitSetID): An idenfication of a set of units that can be used for a measure or method. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 28

Unitless measure(unitless): A unit for unitless measures, like pH. NA *Part Type:* unit*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unitless unit set(unitlessUnitSet): Unit set for measurements that does not have units. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* unitlessUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Ultracentrifugation(untracent): Ultracentrifugation NA *Part Type:* category*Domain ID:* Che*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* methodConcCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

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Upper limit of a 95% confidence interval(upperCI95): Specifies the the upper limit of a 95% confidence interval. Should typically be linked to a lower limit, and some indication of data spread (ie. standard deviation), and a mean/median measure. *Part Type:* aggregation*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Upstream sites(upstream): A general site type for upstream wastewater sampling sites. A catch-all category for upstream wastewater sampling sites, including major sewer pipelines and pumping stations. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Unquantifiable(uq): Unquantifiable, Ct value exceeds the maximum value of the standard curve. There was a detect, but we cannot quantify it with certainty. NA *Part Type:* quality*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

v2930l delta-variant gene target(v2930l): v2930l delta-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpeci-

men *Compartment Set:* anyCompartment *Group ID:* sarsCov2 *Class ID:* mutation *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* geneticUnitSet *Aggregation Scale ID:* see unit *Quality Set ID:* pcrQualitySet *Reference Link:* NA *Data Type:* see unit *Minimum Value:* see unit *Maximum Value:* see unit *Minimum Length:* NA *Maximum Length:* NA

Value set(valSet): A list of measurement values that are not categories TRUE and FALSE are examples of a value set. This value set applies to the boolean data type. *Part Type:* set *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* NA *Maximum Length:* NA

Validation study(validationStudy): A meaure or sample taken for a validation study. NA *Part Type:* category *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* purposeCatSet *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* varchar *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 30

Value(value): Value of a measure, observation or attribute. NA *Part Type:* attribute *Domain ID:* naDomain *Speciment ID:* naSpecimenSet *Compartment Set:* naCompartmentSet *Group ID:* naGroup *Class ID:* naClass *Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug) *Category Set ID:* NA *Unit Set ID:* naUnitSet *Aggregation Scale ID:* NA *Quality Set ID:* NA *Reference Link:* NA *Data Type:* NA *Minimum Value:* NA *Maximum Value:* NA *Minimum Length:* 0 *Maximum Length:* 28

Frequency of Variants Detected(varFreq): A description of the frequency of a variants detected. Measured by sequencing. *Part Type:* unit*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* 100*Minimum Length:* NA*Maximum Length:* NA

Variants Other(varOth): Used for reporting variants detected for which a specific measureID doesn't already exist. The ODM team will periodically migrate collected responses in this category into set measureIDs. Please write in an official name for the new variant that was detected, and specify which nomenclature you're using with the nomenclatureID. *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* variant*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Variable Character Data Type(varchar): The data type for variable character data. Only used for the dictionary entries of parts. *Part Type:* dataType*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Variants class(variant): Specifies a collection of measures/methods relating to variants of a pathogen. NA *Part Type:* class*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group

ID: naGroup*Class ID:* variant*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Population with 1 dose of vaccine(vax1): A measure of the population with a single dose of vaccine. NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* humanCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Population with 2 doses of vaccine(vax2): Population with 2 doses of vaccine NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Population with 3 doses of vaccine(vax3): Population with 3 doses of vaccine NA *Part Type:* unit*Domain ID:* Bio*Speciment ID:* poSpecimen*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* integer*Minimum Value:* 0*Maximum Value:* NA*Minimum Length:* NA*Maximum Length:* NA

Miscellaneous viruses group(virusMisc): A group of measures/methods related to miscellaneous viruses. The miscallenous viruses are often measured for normalization or standardization and have

only one measure or method. When a virus has many measures, they will be given their own groupID in updated dictionary versions. *Part Type:* group*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* virusMisc*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Size in volume(vol): Total volume of water or sludge sampled. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* measGrp*Class ID:* physical*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* float*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Volume proportional sample(volPr): A volume proportional sample generally collected by an autosampler. Used for water or air testing *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* airWaterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* collectCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Volume unit set(volumeUnitSet): Unit set of volume measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* volumeUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference

Link: NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Volatile Suspended Solids(vss): Volatile suspended solids NA *Part Type:* measure*Domain ID:* Che*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Volatile suspended solids - Ignition(vssIg): A water quality measure, captured by via the loss on ignition of the mass of measured total suspended solids. This ignition generally takes place in an oven at a temperature of 550 ?C to 600 ?C. It represents the amount of volatile matter present in the solid fraction of the measured solution. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* saSpecimen*Compartment Set:* waterCompartment*Group ID:* measGrp*Class ID:* standardConc*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* stdConcentrationUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Water compartment(w): A measure or observation made from a substance in the water, including wastewater. NA *Part Type:* compartment*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 1

Wide 95% interval(wI): The 95% interval is too wide, low confidence in results. If there are multiple issues to flage, use the multiple issues flag

and explain the details in the notes section. *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* seqQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Measure identification (wide table)(wMeasureID): Unique identifier for wide table only. Use when all measures are performed on a single sample at the same time and same laboratory. Suggestion: siteID_sampleID_LabID_reportDate_ID. NA *Part Type:* attribute*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* naCompartmentSet*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Wastewater Temperature(watTemp): Temperature of the wastewater. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSaSpecimen*Compartment Set:* waterCompartment*Group ID:* miscMeas*Class ID:* tempClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* temperatureUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Water depreciated(water): Non-wastewater, coming from any kind of water body. NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* sampleMatCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:*

NA*Data Type:* NA*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Water compartment set(waterCompartmentSet): A compartment set for measures and methods in the water compartment. NA *Part Type:* set*Domain ID:* allDo*Speciment ID:* anySpecimen*Compartment Set:* waterCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 15

Weather(weath): A measure for weather captured through qualitative categories; part of a larger suite of weather measures that may be useful when collecting samples from outdoor sources. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* unitlessUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Weather CatSetegory Set(weathCatSet): A category set of the valid qualitative categories for the qualitative weather measure. NA *Part Type:* catSet*Domain ID:* naDomain*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* weathCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* categorical*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30 Categorical inputs for this part

Cloudy:(cloudy)

Foggy:(foggy)

Rainy:(rainy)

Snowy:(snowy)

Sunny:(sunny)

WHO nomenclature(who): Specifies variant or genetic nomenclature as set out by the World Health Organization. NA *Part Type:* nomenclature*Domain ID:* Bio*Speciment ID:* naSpecimenSet*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Wind Speed(wind): A measure for wind speed; part of a larger suite of weather measures that may be useful when collecting samples from outdoor sources. NA *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* anyCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* windSpeedUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Wind speed unit set(windSpeedUnitSet): Unit set for wind speed measurements. NA *Part Type:* set*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* airCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* windSpeedUnitSet*Aggregation Scale ID:* quantAggScale*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample stored incorrectly(wrongStorage): Sample was stored inappropriately. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class

ID: naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sample stored at wrong temperature(wrongTemp): Sample was stored at an inappropriate temperature. NA *Part Type:* quality*Domain ID:* naDomain*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* naGroup*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* sampleQualitySet*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Wastewater Treatment Plant(wwtp): A general site type for wastewater treatment plants. Used as a catch-all category for industrial or municipal wastewater treatment plants that carry combined or sanitary sewage, or lagoons. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Back-up wastewater treatment site(wwtpBack): Indicates a wastewater treatment plant where multiple labs are or were sampling, and where secondary samples are being taken taken. Sites of this type should ideally should be paired via parent site ID with the general site information. *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference*

Link: NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Wastewater Treatment Plant Designed Capacity(wwtpCap): A measure for the designed capacity of a wastewater treatment plant, in terms of how much water it was designed to be able to hold and process. Maps to units of either million gallons per day, or population equivalents. *Part Type:* measure*Domain ID:* Phy*Speciment ID:* siSpecimen*Compartment Set:* waterCompartment*Group ID:* siteFeat*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* capacityUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* genQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

Industrial wastewater treatment plant(wwtpInd): Industrial wastewater treatment plant NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Municipal wastewater treatment plant for combined sewage(wwtpMuC): Municipal wastewater treatment plant for combined sewage NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Municipal wastewater treatment plant for danitary dewage only(wwtpMuS): Municipal wastewater treatment plant for sanitary

sewage only NA *Part Type:* category*Domain ID:* naDomain*Speciment ID:* naSpecimenSet*Compartment Set:* waterCompartment*Group ID:* colGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* siteTypeCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

y505h omicron-variant gene target(y505h?): y505h omicron-variant gene target NA *Part Type:* measure*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* sarsCov2*Class ID:* mutation*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* NA*Unit Set ID:* geneticUnitSet*Aggregation Scale ID:* see unit*Quality Set ID:* pcrQualitySet*Reference Link:* NA*Data Type:* see unit*Minimum Value:* see unit*Maximum Value:* see unit*Minimum Length:* NA*Maximum Length:* NA

zymo environ water rna kit/ zymo environ water rna kit (cat. r2042)(zymoEnv): Nucleic acid extraction performed using the zymo environ water rna kit/ zymo environ water rna kit (cat. r2042). NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference Link:* NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

zymo quick-rna fungal/bacterial miniprep #r2014(zymoQuick): Nucleic acid extraction performed using the zymo quick-rna fungal/bacterial miniprep #r2014 kit. NA *Part Type:* category*Domain ID:* Bio*Speciment ID:* saSpecimen*Compartment Set:* anyCompartment*Group ID:* procGrp*Class ID:* naClass*Nomenclature ID:* naNomenclature *Ontology Reference:* NA(maybe bug)*Category Set ID:* extractCatSet*Unit Set ID:* naUnitSet*Aggregation Scale ID:* NA*Quality Set ID:* NA*Reference*

Link: NA*Data Type:* varchar*Minimum Value:* NA*Maximum Value:* NA*Minimum Length:* 0*Maximum Length:* 30

Sets

The list of sets in aphabetical order of setsID

Languages

The language table by langID.

Translations

The list of translations by languageID.

Tables

ODM version 2.0.0-rc.3.3.

The ODM database model has 21 tables in its full relational database. The full model is commonly referred to as "long" tables as it stores data with one measurement per row. Each table has mandatory and optional headers.

> **i** Data storage
>
> It is recommended that all ODM data be stored in the 21 tables as this ensures interoperable data sharing and is supported by the ODM validation toolkit and other ODM libraries.
> However, users have the option to create custom tables or 'views' by combining fields from any table. The common format for data entry is a "wide" format where data is collected with *one day per row* and multiple measures or attributes per row. Please note that this guide does not cover how to generate wide tables.

Table types

There are three types of tables:

1) **Regular report tables**. The measures and samples tables are used for daily reporting of new measurements and information on sample collection. Three tables support regular reporting - measureSets is an optional

table used to link measures, `sampleRelationships` is an optional table used when samples are pooled or split, and `qualityReports` is used for detailed quality assurance and control measures.

2) **Contact information tables**. `sites`, `organizations`, `contacts`, and `addresses` hold contact information for the testing site and the person who performed the testing.

3) **Protocol or methods tables**. The `protocols` and `instruments` tables hold information on the methods used for sample collection or measurement. `protocolSteps` and `protocolRelationships` tables are used in conjunction with the `protocols` table.

4) **Other report tables**. The `polygons` table stores information on the sample area and the `datasets` table includes information on the data custodian and owner.

5) **Dictionary reference tables**. `parts`, `sets`, `languages`, and `translations` are reference or look-up tables. For example, the `parts` table describe all elements of the ODM, including tables, table headers, measures, methods, categories, and units. `sets` are collections of parts. For example, units can be grouped together in a `unitSet`. `languages` and `translations` support translations.

The `parts`, `sets`, `languages`, and `translations` tables are reference or lookup tables. For example, the `parts` table describes all elements of the ODM including tables, table headers, measures, methods, categories, and units. The `sets` table is a collection of parts, such as units grouped together in a `unitSet`. The `languages` and `translations` tables support translations.

Header roles

Each table has column headers, also known as table variables, fields, or entity relationship attributes. The header serves as the top row and contains

the variable name.

Primary key (PK) - All tables except dictionary tables have a primary key, which serves as a unique identifier for each row in the table. This means that a primary key value cannot be repeated.

Foreign key (FK) - Some tables may have one or more foreign keys. A foreign key connects an entry to another table with a primary key. It allows for relationships between tables to be established, making it possible to link data between different tables.

Header (header) - This label is used in a table description when a header is not a primary or foreign key.

> **i** Each table has a primary key
>
> It is important to note that the headers in each table may have different roles, but each header must have one of the three roles described above. The ODM standard requires that each table have a primary key, but the number and type of foreign keys and attributes may vary depending on the table.

Mandatory, optional, mandatoryIf

A header may be mandatory or optional. In the `measures` table, examples of mandatory headers are the `measureID` and `measurement date`. The ODM validation toolkit can be used to validate data. The toolkit will return an error if a table lacks a mandatory header, or if there are missing row entries for mandatory fields.

`mandatoryIf` headers are special header that are mandatory if special conditions apply. For example, the `protocol steps` table have row entries that are `measures` or `methods`. If the row entry is a `measure`, then a unit

becomes mandatory, since all measures must have a unit. So, `units` are `mandatoryIf` in the `Protocol steps` table.

Table list

Address Table

Contact Table

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Address Table

partID: addresses. The table that contains information about addresses. Addresses can recorded for sites, organizations or contacts (indivduals). The Sites, Organizations, and Contacts tables include a link to the addresses table through Address ID.

Address ID (addressID). A unique identifier for an address.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Address Line 1 (addL1). Line 1 (the street name, number and direction) for a given address.Role: Header.Requirement: mandatory.Data type: varchar.

Address Line 2 (addL2). Line 2 (the unit number) for a given address.Role: Header.Requirement: optional.Data type: varchar.

City (city). The city where a site or organization is located; part of the address.Role: Header.Requirement: mandatory.Data type: varchar.

State, Province, or Region (stateProvReg). The state, province, or region where a site or organization is located; part of the address.Role: Header.Requirement: mandatory.Data type: varchar.

Postal or Zip Code (pCode). The zip code or postal code for a given address, specifying a specifc geographic area.Role: Header.Requirement: optional.Data type: varchar.

Country (country). The country where a site or organization is located; part of the address.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Contact Table

partID: contacts. The table that contains information about a contact; a person who is the contact of a site or laboratory. adapt from verson 1 documentation

Contact (contactID). A unique identifier for a given contact person.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

First name of contact (firstName). Specifies the first name of a given contact.Role: Header.Requirement: optional.Data type: varchar.

Last name of contact (lastName). Specifies the last name of a given contact.Role: Header.Requirement: optional.Data type: varchar.

Contact email (email). Contact e-mail address, for the lab.Role: Header.Requirement: mandatory.Data type: varchar.

Contact phone (phone). Contact phone number, for the lab.Role: Header.Requirement: optional.Data type: varchar.

Role of Contact (role). Specifies the organizational role of a given contact.Role: Header.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Dataset Table

partID: datasets. A report table for capturing details about data's parental data set and data custodians. Supplying attribution for data collectors.

Parent dataset ID (parDatasetID). The datasetID that is a parent to another datasetID.Role: Foreign Key.Requirement: optional.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset Creation Date (datasetDate). Specifies the date a given dataset was created.Role: Header.Requirement: recommended.Data type: datetime.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: recommended.Data type: varchar.

License (license). The license of a dataset.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Description (descr). A detailed description as an attirbute for describing results or program elements.Role: Header.Requirement: optional.Data type: varchar.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Language ID (langID). Language code for translation purposes. Specifies the langage for each translation, other than the default English.Role: Foreign Key.Requirement: optional.Data type: varchar.

Funder Contact ID (funderCont). A unique identifier for funders.Role: Foreign Key.Requirement: recommended.Data type: varchar.

Custody Contact ID (custodyCont). A unique identifier for data custodians.Role: Foreign Key.Requirement: recommended.Data type: varchar.

Funding agency (funderID). The funding agency of the dataset.Role: Foreign Key.Requirement: optional.Data type: varchar.

Data custodian (custodyID). The data custodian of a database.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Instrument Table

partID: instruments. The table that contains information about instruments. adapt from verson 1 documentation

Instrument ID (instrumentID). A unique identifier for an instrument.Role: Primary Key.Requirement: mandatory.Data type: categorical.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: recommended.Data type: varchar.

Model (model). Model number or version of the instrument.Role: Header.Requirement: mandatory.Data type: varchar.

Manufacturer (manufacturer). Manufacturer of an insturment.Role: Header.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Foreign Key.Requirement: optional.Data type: varchar.

Description (descr). A detailed description as an attirbute for describing results or program elements.Role: Header.Requirement: optional.Data type: varchar.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Instrument Type (insType). Type of instrument used to perform the measurement.Role: Foreign Key.Requirement: mandatory.Data type: categorical. CatSet: insTypeCatSet

Describe other instrument type, if applicable (insTypeOth). Description of the instrument in case it is not listed in instrumentType.Role: Header.Requirement: optional.Data type: varchar.

Index (index). Index number in case the measurement was taken multiple times.Role: Header.Requirement: optional.Data type: integer.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Language Look-up Table

partID: languages. Look up table for all languages, used to give structure to the translation table.

Language ID (langID). Language code for translation purposes. Specifies the langage for each translation, other than the default English.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Language family (langFam). Specifies the language family of a given language for translation and language tracking purposes.Role: Header.Requirement: mandatory.Data type: varchar.

Language name (langName). Specifies the name of the language in roman alphabet characters for translation and language tracking purposes.Role: Header.Requirement: mandatory.Data type: varchar.

Native Name (natName). The native name of the language, i.e. what the language is called by its speakers.Role: Header.Requirement: mandatory.Data type: categorical.

ISO639-1 (iso6391). The first part of the ISO 639 series of international standards for language codes. Part 1 covers the registration of two-letter codes. There are 183 two-letter codes registered as of June 2021. The registered codes cover the world's major languages.Role: Header.Requirement: mandatory.Data type: categorical.

ISO639-2B (iso6392B). A set of international standards that lists short codes for language names. These ISO639-2 are the three-letter codes defined in part two (ISO 639-2) of the standard, including the corresponding two-letter (ISO 639-1) codes where they exist. The 'B' specifies the bibliographic code (B code).Role: Header.Requirement: mandatory.Data type: categorical.

ISO639-2T (iso6392T). A set of international standards that lists short codes for language names. These ISO639-2 are the three-letter codes defined in part two (ISO 639-2) of the standard, including the corresponding two-letter (ISO 639-1) codes where they exist. The 'T' specifies the terminological code (T code).Role: Header.Requirement: mandatory.Data type: categorical.

ISO639-3 (iso6393). A set of international standards that lists short codes for language names. ISO 639-3 extends the ISO 639-2 alpha-3 codes with an aim to cover all known natural languages.Role: Header.Requirement: mandatory.Data type: categorical.

ISO639-6 (iso6396). A set of international standards that lists short codes for language names. ISO 639-6 builds off ISO639-3 with the use of four-letter codes, and allowing users to differenciate between variants of languages and language families, such as histroical vs. revived versions of languages.Role: Header.Requirement: mandatory.Data type: categorical.

First released version (firstReleased). The version in which a part was first releasedRole: Header.Requirement: mandatory.Data type: varchar.

Last updated version (lastUpdated). The version in which the part was last updated.Role: Header.Requirement: mandatory.Data type: varchar.

Changes column (changes). A column for recording the changes from a previous version.Role: Header.Requirement: optional.Data type: varchar.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Measure Report Table

partID: measures. The table that contains information and details about a given measure adapt from verson 1 documentation

Report ID (measureRepID). Unique identifier for a measurement.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Protocol ID (protocolID). A unique identifier for a given protocol.Role: Foreign Key.Requirement: optional.Data type: varchar.

Sample ID (sampleID). Unique identifier for a sample.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Purpose (purposeID). The reason the measure or sample was taken.Role: Foreign Key.Requirement: optional.Data type: categorical. CatSet: purposeCatSet

Polygon ID (polygonID). Unique identifier for the polygon.Role: Foreign Key.Requirement: optional.Data type: varchar.

Site ID (siteID). Unique identifier for the location where a sample was taken.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Report Set ID (meaureSetRepID). Unique identifier that links together a group of related measures.Role: Foreign Key.Requirement: optional.Data type: varchar.

Analysis date start (aDateStart). Date the measurement or analysis was started.Role: Header.Requirement: optional.Data type: datetime.

Analysis date end (aDateEnd). Date the measurement or analysis was completed.Role: Header.Requirement: mandatory.Data type: datetime.

Report Date (reportDate). The date a measure was reported.Role: Header.Requirement: optional.Data type: datetime.

Specimen (specimenID). The substance or thing upon which the observation was made.Role: Foreign Key.Requirement: mandatory.Data type: categorical.

Fraction analyzed (fractionID). Fraction of the sample that is analyzed.Role: Foreign Key.Requirement: recommended.Data type: categorical. CatSet: fractionCatSet

Group (groupID). Unique identifier for a group of measures. Mostly applicable for measures, methods, units, and aggregations.Role: Foreign Key.Requirement: optional.Data type: categorical.

Class (classID). A unique identifier for a class, which is akin to a subgroup; it's a way of grouping parts within a given groupID. A group can have one or more classes to describe different parts of the class.Role: Foreign Key.Requirement: optional.Data type: categorical.

Measure (measureID). A measurement or observation of any substance including a biological, physical or chemical substance.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Value (value). Value of a measure, observation or attribute.Role: Header.Requirement: mandatory.

Unit (unitID). The units of a measurement.Role: Foreign Key.Requirement: mandatory.Data type: categorical.

Aggregation (aggID). Statistical measures used to report a measure. Each aggregation has a corresponding value.Role: Foreign Key.Requirement: mandatory.Data type: categorical.

Nomenclature (nomenclatureID). A classification system to report the measure class. Only applicable to variants, mutations, and diseases.Role: Foreign Key.Requirement: optional.Data type: categorical.

Index (index). Index number in case the measurement was taken multiple times.Role: Header.Requirement: optional.Data type: integer.

Measure license (mesureLic). Specifies the access and use licensing for a given single measurement.Role: Header.Requirement: optional.Data type: varchar.

Reportable (reportable). Flag for whether a measure is reportable or not, based on confidence in the measure and methods applied.Role: Header.Requirement: optional.Data type: boolean.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Header.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Header.Requirement: optional.Data type: varchar.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Measure Set Report Table

partID: measureSets. The table that identifies sets of measures. Examples of measure sets include a set of replicates, dilutions (used to generate a Ct curve) or varients that are identified in a single sample.

Report Set ID (meaureSetRepID). Unique identifier that links together a group of related measures.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Protocol ID (protocolID). A unique identifier for a given protocol.Role: Foreign Key.Requirement: optional.Data type: varchar.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Foreign Key.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Organization Table

partID: organizations. The table that contains information about a laboratory. adapt from verson 1 documentation

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Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Address ID (addressID). A unique identifier for an address.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Organization Type (orgTypeID). Specifies the type or purpose of a given organization.Role: Foreign Key.Requirement: mandatory.Data type: categorical.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: recommended.Data type: varchar.

Description (descr). A detailed description as an attirbute for describing results or program elements.Role: Header.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Parts Look-up Table

partID: parts. Look up table containing all parts in of the data model. Contains all parts, including self-referential parts.

Part ID (partID). The unique identify of any entity within the dictionary.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Label (partLabel). A human readable label of a part.Role: Header.Requirement: mandatory.Data type: varchar.

Part types (partType). Part types describe the purpose or use of the part.Role: Header.Requirement: mandatory.Data type: varchar.

Short Names (shortName). Shortened names for tables and other important parts for use in wide names.Role: Header.Requirement: mandatory.Data type: varchar.

Part description (partDesc). The description of the part.Role: Header.Requirement: mandatory.Data type: varchar.

Part Instruction (partInstr). Additional notes and instructions on how a part is used and/or defined.Role: Header.Requirement: mandatory.Data type: varchar.

Domain ID (domainID). Domain is the highest level of describing of a measure. There are three domain types: biologic (i.e. Covid-19, chemical (i.e. nitrogen), physical measure (temperature).Role: Header.Requirement: mandatory.Data type: categorical.

Specimen Set (specimenSet). The set of valid specimens that apply to another given part.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Compartment set (compSet). The set of valid compartments that apply to another given part.Role: Header.Requirement: mandatory.Data type: varchar.

Group (groupID). Unique identifier for a group of measures. Mostly applicable for measures, methods, units, and aggregations.Role: Header.Requirement: mandatory.Data type: categorical.

Class (classID). A unique identifier for a class, which is akin to a subgroup; it's a way of grouping parts within a given groupID. A group can have one or more classes to describe different parts of the class.Role: Header.Requirement: mandatory.Data type: categorical.

Nomenclature (nomenclatureID). A classification system to report the measure class. Only applicable to variants, mutations, and diseases.Role: Header.Requirement: mandatory.Data type: categorical.

Ontology reference (ontologyRef). Ontology reference for a part.Role: Header.Requirement: mandatory.Data type: varchar.

LaTeX expression (latExp). LaTeX expression used to generate formulas, symbols, etc. Mainly relevant for units.Role: Header.Requirement: mandatory.Data type: varchar.

Category Set ID (catSetID). The category set that corresponds to a given part. A set of categories used for a method or measure. Only applicable for categorical fields, and the categories that populate them.Role: Header.Requirement: mandatory.Data type: categorical.

Unit Set ID (unitSetID). An idenfication of a set of units that can be used for a measure or method.Role: Header.Requirement: mandatory.Data type: categorical.

Aggregation Scale ID (aggScaleID). A scale used for an aggregation. See partID = ... Only applicable for measures and units.Role: Header.Requirement: mandatory.Data type: categorical.

Aggregation Set ID (aggSetID). The ID for an aggreatation set. Mainly applicable to partType = "units".Role: Header.Requirement: mandatory.Data type: categorical.

Quality Set ID (qualitySetID). The quality set that corresponds to a given part. Only applicable for samples and measures.Role: Header.Requirement: mandatory.Data type: varchar.

Status (status). Whether the part is still active and can be used in the most current ODM version. Values are 'active' or 'inactive'.Role: Header.Requirement: mandatory.Data type: varchar.

First released version (firstReleased). The version in which a part was first releasedRole: Header.Requirement: mandatory.Data type: varchar.

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Last updated version (lastUpdated). The version in which the part was last updated.Role: Header.Requirement: mandatory.Data type: varchar.

Changes column (changes). A column for recording the changes from a previous version.Role: Header.Requirement: mandatory.Data type: varchar.

Protocol steps table (protocolSteps). The table for collecting metadata on individual steps in a protocol, methodological process, or assay.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (protocolRelationshipsRequired). Specifies the columns required in the Protocol Organization table.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (protocolStepsRequired). Specifies the columns required in a Protocol Steps table.Role: Header.Requirement: mandatory.Data type: varchar.

Protocol steps table column order (protocolStepsOrder). Specifies the order of the columns in a Protocol Steps table.Role: Header.Requirement: mandatory.Data type: integer.

Protocol relationships table (protocolRelationships). The table that contains the organizational information and details (such as order) about a given protocol, recorded as a series of protocol steps (protocolSteps).Role: Header.Requirement: mandatory.Data type: varchar.

Protocol relationships table column order (protocolRelationshipsOrder). Specifies the order of the columns in the Protocol Organization table.Role: Header.Requirement: mandatory.Data type: integer.

Measure Report Table (measures). The table that contains information and details about a given measureRole: Header.Requirement: mandatory.Data type: varchar.

Tables

Requirement (measuresRequired). Specifies the columns required in a Measures table.Role: Header.Requirement: mandatory.Data type: varchar.

Measures table column order (measuresOrder). Specifies the order of the columns in a Measures table.Role: Header.Requirement: mandatory.Data type: integer.

Measure Set Report Table (measureSets). The table that identifies sets of measures.Role: Header.Requirement: mandatory.Data type: varchar.

Measure sets table column order (measureSetsOrder). Specifies the order of the columns in a Measure Sets table.Role: Header.Requirement: mandatory.Data type: integer.

Requirement (measureSetsRequired). Specifies the columns required in a Measure Sets table.Role: Header.Requirement: mandatory.Data type: varchar.

Dataset Table (datasets). A report table for capturing details about data's parental data set and data custodians. Supplying attribution for data collectors.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (datasetsRequired). Specifies the columns required in a Datasets table.Role: Header.Requirement: mandatory.Data type: varchar.

Datasets table column order (datasetsOrder). Specifies the order of the columns in a Datasets table.Role: Header.Requirement: mandatory.Data type: integer.

Sites table (sites). The table that contains information about a site; the location where an environmental sample was taken.Role: Header.Requirement: mandatory.Data type: varchar.

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Requirement (sitesRequired). Specifies the columns required in a Sites table.Role: Header.Requirement: mandatory.Data type: varchar.

Sites table column order (sitesOrder). Specifies the order of the columns in a Sites table.Role: Header.Requirement: mandatory.Data type: integer.

Sample report table (samples). The table that contains information about a sample, where a sample is defined as a representative volume of wastewater, air, or surface substance taken from a Site which is then analysed by a lab (organization).Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (samplesRequired). Specifies the columns required in a Samples table.Role: Header.Requirement: mandatory.Data type: varchar.

Samples table column order (samplesOrder). Specifies the order of the columns in a Samples table.Role: Header.Requirement: mandatory.Data type: integer.

Address Table (addresses). The table that contains information about addresses. Addresses can recorded for sites, organizations or contacts (indivduals).Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (addressesRequired). Specifies the columns required in a Addresses table.Role: Header.Requirement: mandatory.Data type: varchar.

Addresses table column order (addressesOrder). Specifies the order of the columns in the Addresses table.Role: Header.Requirement: mandatory.Data type: integer.

Contact Table (contacts). The table that contains information about a contact; a person who is the contact of a site or laboratory.Role: Header.Requirement: mandatory.Data type: varchar.

Tables

Requirement (contactsRequired). Specifies the columns required in a Contacts table.Role: Header.Requirement: mandatory.Data type: varchar.

Contacts table column order (contactsOrder). Specifies the order of the columns in a Contacts table.Role: Header.Requirement: mandatory.Data type: integer.

Organization Table (organizations). The table that contains information about a laboratory.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (organizationsRequired). Specifies the columns required in a Organizations table.Role: Header.Requirement: mandatory.Data type: varchar.

Organizations table column order (organizationsOrder). Specifies the order of the columns in a Organizations table.Role: Header.Requirement: mandatory.Data type: integer.

Instrument Table (instruments). The table that contains information about instruments.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (instrumentsRequired). Specifies the columns required in the Instruments table.Role: Header.Requirement: mandatory.Data type: varchar.

Instruments table column order (instrumentsOrder). Specifies the order of the columns in the Instruments table.Role: Header.Requirement: mandatory.Data type: integer.

Polygon Table (polygons). The table that contains information about the geometry of a geographic area.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (polygonsRequired). Specifies the columns required in a Polygons table.Role: Header.Requirement: mandatory.Data type: varchar.

Polygons table column order (polygonsOrder). Specifies the order of the columns in a Polygons table.Role: Header.Requirement: mandatory.Data type: integer.

Language Look-up Table (languages). Look up table for all languages, used to give structure to the translation table.Role: Header.Requirement: mandatory.Data type: varchar.

Required headers (languagesRequired). Required headers in the Languages table.Role: Header.Requirement: mandatory.Data type: varchar.

Language table column order (languagesOrder). Specifies the order of the columns in the Languages table.Role: Header.Requirement: mandatory.Data type: integer.

Translation look-up table (translations). Look up table for translations of the description, label, and instruction for all parts.Role: Header.Requirement: mandatory.Data type: varchar.

Parts Look-up Table (parts). Look up table containing all parts in of the data model.Role: Header.Requirement: mandatory.Data type: varchar.

Required headers (translationsRequired). Required headers in the Translations table.Role: Header.Requirement: mandatory.Data type: varchar.

Translation table column order (translationsOrder). Specifies the order of the columns in the Translation table.Role: Header.Requirement: mandatory.Data type: integer.

Parts table column order (partsOrder). Order of headers in the Parts table.Role: Header.Requirement: mandatory.Data type: varchar.

Tables

Required headers (partsRequired). Required headers in the Parts table.Role: Header.Requirement: mandatory.Data type: varchar.

Sets look-up table (sets). Look up table for all sets, managing how categorical inputs for various methods and attributes are grouped together.Role: Header.Requirement: mandatory.Data type: varchar.

Sets table column order (setsOrder). Specifies the order of the columns in the Sets table.Role: Header.Requirement: mandatory.Data type: integer.

Required headers (setsRequired). Required headers in the Sets table.Role: Header.Requirement: mandatory.Data type: varchar.

Quality seports table (qualityReports). The table for recording the various quality metrics and indicators for samples and measures.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (qualityReportsRequired). Specifies the columns required in the Quality Reports table.Role: Header.Requirement: mandatory.Data type: varchar.

Quality rerpots table column order (qualityReportsOrder). Specifies the order of the columns in the Quality Reports table.Role: Header.Requirement: mandatory.Data type: integer.

Sample relationships table (sampleRelationships). Table for recording the relationships between samples.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (sampleRelationshipsRequired). Specifies the columns required in a Sample Relationships table.Role: Header.Requirement: mandatory.Data type: varchar.

Sample relationships table column order (sampleRelationshipsOrder). Specifies the order of the columns in a Sample Relationships table.Role: Header.Requirement: mandatory.Data type: integer.

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Protocols table (protocols). The table for protocols.Role: Header.Requirement: mandatory.Data type: varchar.

Requirement (protocolsRequired). Specifies the columns required in the Protocols table.Role: Header.Requirement: mandatory.Data type: varchar.

Protocols table column order (protocolsOrder). Specifies the order of the columns in the Protocols table.Role: Header.Requirement: mandatory.Data type: integer.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: mandatory.Data type: varchar.

Data types (dataType). The data type for a part.Role: Header.Requirement: mandatory.Data type: varchar.

Minimum value (minValue). The minimum value of measure.Role: Header.Requirement: mandatory.Data type: varchar.

Maximum value (maxValue). The maximum value of a part.Role: Header.Requirement: mandatory.Data type: varchar.

Minimum length (minLength). The maximum value of measure.Role: Header.Requirement: mandatory.Data type: integer.

Maximum length (maxLength). The maximum length of the value of a part or measure.Role: Header.Requirement: mandatory.Data type: integer.

Polygon Table

partID: polygons. The table that contains information about the geometry of a geographic area.

Polygon ID (polygonID). Unique identifier for the polygon.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: recommended.Data type: varchar.

Description (descr). A detailed description as an attirbute for describing results or program elements.Role: Header.Requirement: optional.Data type: varchar.

Polygon Population (polyPop). An attribute of a polygon, which specifies the population of that polygon. A rough estimate of the number of human residents.Role: Header.Requirement: optional.Data type: integer.

Type of geography (geoType). Type of geography that is represented by the polygon.Role: Header.Requirement: mandatory.Data type: categorical. CatSet: geoTypeCatSet

European Petroleum Survey Group Coordinates (geoEPSG). The unique EPSG code specifying a given geospatial area.Role: Header.Requirement: mandatory.Data type: float.

Well-known text (geoWKT). Well-known text of the polygonRole: Header.Requirement: mandatory.Data type: varchar.

File Location of Polygon (fileLocation). The location of the file containing the geometry of the polygon.Role: Header.Requirement: optional.Data type: blob.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Header.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Header.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Protocol relationships table

partID: protocolRelationships. The table that contains the organizational information and details (such as order) about a given protocol, recorded as a series of protocol steps (protocolSteps). Protocols are a group of related protocol steps. For example a protocol step can describe a sample concentration, extraction, inhibition or a measurement. Protocols can include both methodID (a proceedure) and measureIDs (a measure). An example of a method is centrifugation; where the centriguation rotation speed is described as a measure.

Protocol ID container (protocolIDContainer). Unique identifier for the protocol and the steps and other protocols that make it up.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Protocol ID Object (protocolIDObj). The object of the relationship between one protocol and another protocol or step, within a given protocol ID container.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Step ID Object (stepIDObj). The object of the relationship between one protocol step and another step or protocol, within a given protocol ID

container.Role: Foreign Key.Requirement: mandatoryIf.Data type: integer.

Relationship (relationshipID). Attribute for specifying the relationship between a Subject and Object.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Protocol ID Subject (protocolIDSub). The subject of the relationship between one protocol and another protocol or step, within a given protocol ID container.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Step ID Subject (stepIDSub). The subject of the relationship between one protocol step and another step or protocol, within a given protocol ID container.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Protocols table

partID: protocols. The table for protocols.

Source Protocol (sourceProtocol). A protocol that served as a basis for another protocol. This may be due to version changes, or a referencing a protocol that was later adapted.Role: Foreign Key.Requirement: optional.Data type: varchar.

Protocol ID (protocolID). A unique identifier for a given protocol.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: optional.Data type: varchar.

Summary (summ). Short description of the assay and how it is different from the other assay methods.Role: Header.Requirement: optional.Data type: varchar.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Foreign Key.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: optional.Data type: varchar.

Protocol version (protocolVersion). Specifies the version of a method set.Role: Header.Requirement: optional.Data type: integer.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Protocol steps table

partID: protocolSteps. The table for collecting metadata on individual steps in a protocol, methodological process, or assay.

Protocol Step ID (stepID). The unique identifier for a specific protocol step.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Method (methodID). A procedure for collecting a sample or performing a measure.Role: Foreign Key.Requirement: mandatoryIf.Data type: categorical.

Measure (measureID). A measurement or observation of any substance including a biological, physical or chemical substance.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Summary (summ). Short description of the assay and how it is different from the other assay methods.Role: Header.Requirement: optional.Data type: varchar.

Protocol step source (sourceStep). Specifies the protocol step which serves as a basis for a given protocol step.Role: Foreign Key.Requirement: optional.Data type: varchar.

Protocol Step Version (stepVer). Specifies the version of a given protocol step.Role: Header.Requirement: optional.Data type: varchar.

Reference link (refLink). Link to the reference material for a part. May link to literature on a method, measure, etc.Role: Header.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Foreign Key.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: optional.Data type: varchar.

Instrument ID (instrumentID). A unique identifier for an instrument.Role: Foreign Key.Requirement: optional.Data type: categorical.

Value (value). Value of a measure, observation or attribute.Role: Header.Requirement: mandatoryIf.

Unit (unitID). The units of a measurement.Role: Foreign Key.Requirement: mandatoryIf.Data type: categorical.

Aggregation (aggID). Statistical measures used to report a measure. Each aggregation has a corresponding value.Role: Foreign Key.Requirement: mandatoryIf.Data type: categorical.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Quality seports table

partID: qualityReports. The table for recording the various quality metrics and indicators for samples and measures.

Quality Report ID (qualityID). A unique identifier for a given quality report.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Report ID (measureRepID). Unique identifier for a measurement.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Sample ID (sampleID). Unique identifier for a sample.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Report Set ID (meaureSetRepID). Unique identifier that links together a group of related measures.Role: Foreign Key.Requirement: mandatoryIf.Data type: varchar.

Quality Flag (qualityFlag). A field for reporting any quality concerns - of lack thereof - for a sample or measure.Role: Header.Requirement: mandatory.Data type: categorical.

Severity indicator (severity). An indicator of the severity or seriousness of a quality flag.Role: Header.Requirement: optional.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Sample relationships table

partID: sampleRelationships. Table for recording the relationships between samples. Specifically designed to capture information on parent-child relationships between samples, and allow for tracking sample lineage for single and pooled samples.

Sample ID Subject (sampleIDSub). Populated by `sampleID` - this specifies the subject of a sample relationship.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Relationship (relationshipID). Attribute for specifying the relationship between a Subject and Object.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Sample ID Object (sampleIDObj). Populated by `sampleID` - this specifies the object of a sample relationship.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Sample report table

partID: samples. The table that contains information about a sample, where a sample is defined as a representative volume of wastewater, air, or surface substance taken from a Site which is then analysed by a lab (organization).

Sample ID (sampleID). Unique identifier for a sample.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Protocol ID (protocolID). A unique identifier for a given protocol.Role: Foreign Key.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Header.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: optional.Data type: varchar.

Site ID (siteID). Unique identifier for the location where a sample was taken.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Purpose (purposeID). The reason the measure or sample was taken.Role: Foreign Key.Requirement: optional.Data type: categorical. CatSet: purposeCatSet

Sample material (saMaterial). Type of sample.Role: Foreign Key.Requirement: mandatory.Data type: categorical. CatSet: sampleMatCatSet

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Sample origin (origin). An attribute of a sample specifying the origin.Role: Header.Requirement: optional.Data type: categorical.

Replicate Type (repType). Attirbute of a sample, specifying whether the sample is unique, or a replicate. And if it is a replicate, what type of replicate is it?Role: Foreign Key.Requirement: optional.Data type: categorical. CatSet: replicateCatSet

Sample collection type (collType). The type of collection.Role: Foreign Key.Requirement: mandatory.Data type: categorical. CatSet: collectCatSet

Collection period (collPer). Collection period. The time period over which the sample was collected, in hours. Alternatively, use collectionStart and collectionEnd.Role: Header.Requirement: mandatory.Data type: float.

Collection number (collNum). The number of subsamples that were combined to create the sample. Use NA for continuous, proportional or passive sampling.Role: Header.Requirement: mandatory.Data type: integer.

Collection number and period (collNumPer). Composite collection number.period.Role: Header.Requirement: mandatory.Data type: varchar.

Pooled (pooled). Is this a pooled sample, and therefore composed of multiple child samples obtained at different sitesRole: Header.Requirement: optional.Data type: boolean.

Collection date time (collDT). for grab samples this is the date, time and timezone the sample was taken.Role: Header.Requirement: mandatory.Data type: datetime.

Collection date time start (collDTStart). For integrated time averaged samples this is the date, time and timezone the sample was started being taken.Role: Header.Requirement: optional.Data type: datetime.

Collection date time end (collDTEnd). For integrated time average samples this is the date, time and timezone the sample was finished being taken.Role: Header.Requirement: optional.Data type: datetime.

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Date sample was sent (sentDate). The date the sample was sent for analyses at a laboratory.Role: Header.Requirement: optional.Data type: datetime.

Date sample recieved (recDate). The date the sample was received at the laboratory for analysis.Role: Header.Requirement: optional.Data type: datetime.

Reportable (reportable). Flag for whether a measure is reportable or not, based on confidence in the measure and methods applied.Role: Header.Requirement: optional.Data type: boolean.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Sets look-up table

partID: sets. Look up table for all sets, managing how categorical inputs for various methods and attributes are grouped together. This table manages many-to-many relationships and category recycling within the ODM.

Set ID (setID). The name of a value set.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Set type (setType). The type of set. i.e. quality set, aggregation set, unit setRole: Header.Requirement: mandatory.

Set Value (setValue). The partID for the set value or category.Role: Foreign Key.Requirement: mandatory.

Label (partLabel). A human readable label of a part.Role: Header.Requirement: mandatory.Data type: varchar.

Part Instruction (partInstr). Additional notes and instructions on how a part is used and/or defined.Role: Header.Requirement: mandatory.Data type: varchar.

Status (status). Whether the part is still active and can be used in the most current ODM version. Values are 'active' or 'inactive'.Role: Header.Requirement: mandatory.Data type: varchar.

First released version (firstReleased). The version in which a part was first releasedRole: Header.Requirement: mandatory.Data type: varchar.

Last updated version (lastUpdated). The version in which the part was last updated.Role: Header.Requirement: mandatory.Data type: varchar.

Changes column (changes). A column for recording the changes from a previous version.Role: Header.Requirement: optional.Data type: varchar.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Sites table

partID: sites. The table that contains information about a site; the location where an environmental sample was taken. The site of an eviromental sample. Information in the site table does not regularly change. Consider using the MeasureReport table if the infomation changes often.

Parent Site ID (parSiteID). The siteID that is a parent to another siteID; usually the sub-site will be contained in the parentSite.Role: Foreign Key.Requirement: optional.Data type: varchar.

Site ID (siteID). Unique identifier for the location where a sample was taken.Role: Primary Key.Requirement: mandatory.Data type: varchar.

Dataset ID (datasetID). The name of the dataset that stores information for MeasureReport, SampleReport and other reporting tables.Role: Foreign Key.Requirement: optional.Data type: varchar.

Polygon ID (polygonID). Unique identifier for the polygon.Role: Foreign Key.Requirement: optional.Data type: varchar.

Site Type (siteTypeID). Type of site or institution where sample was taken.Role: Foreign Key.Requirement: mandatory.Data type: categorical. CatSet: siteTypeCatSet

Sample shed (sampleShed). A geographic area, physical space, or structure. A sample is taken from a sampleshed for a representative measurement of a substance(s).Role: Header.Requirement: mandatory.Data type: categorical. CatSet: shedCatSet

Address ID (addressID). A unique identifier for an address.Role: Foreign Key.Requirement: optional.Data type: varchar.

Organization (organizationID). A unique identifier for the organization to which the reporter is affiliated.Role: Header.Requirement: optional.Data type: varchar.

Contact (contactID). A unique identifier for a given contact person.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Name (name). Name of a domain, specimen, group, class, attribute, unit, nomeclature or other entity.Role: Header.Requirement: recommended.Data type: varchar.

Description (descr). A detailed description as an attirbute for describing results or program elements.Role: Header.Requirement: optional.Data type: varchar.

Public Health Department or Region (pHDept). The public health department or region where the site or institute is located. See also `healthRegion` if there is a separate regional health care delivery authority.Role: Header.Requirement: optional.Data type: varchar.

Health Planning Region (healthReg). The health planning authority where is site or insititute is located. See also `publicHealthDepartment`Role: Header.Requirement: optional.Data type: varchar.

Population Served (popServ). An attribute of a site, which specifies the population of/population served by a given site.Role: Header.Requirement: optional.Data type: categorical.

Latitude (geoLat). Geographical location, latitude in decimal coordinates, ie.: (45.424721)Role: Header.Requirement: mandatoryIf.Data type: float.

Longitude (geoLong). Geographical location, longitude in decimal coordinates, ie.: (-75.695000)Role: Header.Requirement: mandatoryIf.Data type: float.

European Petroleum Survey Group Coordinates (geoEPSG). The unique EPSG code specifying a given geospatial area.Role: Header.Requirement: mandatoryIf.Data type: float.

Last edited (lastEdited). The date the entry was last updated.Role: Header.Requirement: optional.Data type: datetime.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

Translation look-up table

partID: translations. Look up table for translations of the description, label, and instruction for all parts. The default language if a translation is not specified is English.

Language ID (langID). Language code for translation purposes. Specifies the langage for each translation, other than the default English.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Part ID (partID). The unique identify of any entity within the dictionary.Role: Foreign Key.Requirement: mandatory.Data type: varchar.

Label (partLabel). A human readable label of a part.Role: Header.Requirement: mandatory.Data type: varchar.

Part description (partDesc).   The description of the part.Role: Header.Requirement: mandatory.Data type: varchar.

Part Instruction (partInstr). Additional notes and instructions on how a part is used and/or defined.Role: Header.Requirement: optional.Data type: varchar.

First released version (firstReleased). The version in which a part was first releasedRole: Header.Requirement: mandatory.Data type: varchar.

Last updated version (lastUpdated). The version in which the part was last updated.Role: Header.Requirement: mandatory.Data type: varchar.

Changes column (changes). A column for recording the changes from a previous version.Role: Header.Requirement: optional.Data type: varchar.

Notes (notes). A note used to describe details that are not captured in other attrbitutesRole: Header.Requirement: optional.Data type: varchar.

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partTypes

A list of partTypes, grouped by partType. Group by partType, group and class. ie. for list measures by group and classes within groups.

partTypes

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Aggregations

Attributes

Categories

Category sets

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Classes

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Measures

group #1 of measures

class #1 of measues within group #1

Methods

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Part types

Quality measures

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Tables