CEDEN Chemistry Data Dictionary

Column	Label	Type	Description
Program	Program Name	text	The name of the program that is associated with the sample. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ProgramLookUp
ParentProject	Parent Project Name	text	A larger or on-going project in which the specific project that the samples were collected for is associated with. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ParentProjectLookUp
Project	Project Name	text	The project to which the sample result is associated. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ProjectLookUp
StationName	Station Name	text	The name of the station at which the sample was collected. A complete list of stations and station information is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=StationLookUp
StationCode	Station Code	text	An alphanumeric code that represents the sampling site at which the sample was collected. The format is ###ABC123, where ### is the Hydrologic Unit number and ABC123 is an alphanumeric description of the station. An example is "111EELBRN", which is Hydrologic Unit 111 and an abbreviated code to indicate “Eel River - South Fork near Branscomb." Some stations may have a code that deviates from this format because the program or organization collecting the sample has their own code system. A complete list of stations and station information is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=StationLookUp
SampleDate	Sample Date	timestamp	Refers to the date the sample was collected in the field. Default value is January 1, 1950 for unknown or null values. For samples with collection times that last longer than one day, like autosamplers, the SampleDate is the date in which sampling began.
CollectionTime	Collection Time	text	Refers to the time when the first sample of a sampling event at a specific station was collected in the field. Format equals hh:mm in 24 hour time (e.g. 13:30 for 1:30 pm). Default value equals “00:00” if the time sampling started is unknown.
LocationCode	Location Code	text	Describes the physical location in the waterbody and the field survey method used where the sample was collected (e.g. "Transect at 177m from start", "First instance where sample was collected in OpenWater", "second instance where a net (e.g. gill, fyke, dip) was used at the thalweg of the waterbody", "Bank, Left", etc.). Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=LocationLookUp
CollectionDepth	Collection Depth	numeric	Records the depth or penetration, from the surface in the water or sediment column, at which the sample was collected. Default value equals "-88" if unknown or not recorded.
UnitCollectionDepth	Unit Collection Depth	text	The units used to measure the CollectionDepth. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=UnitLookUp
SampleTypeCode	Sampling Type	text	Refers to the type or purpose of the sample that is collected or analyzed (i.e. indicates if the sample was used as a control, for calibration purposes, is a combination of multiple samples, used for algae bioassessment, etc.) Default value equals "Not Recorded" if unknown. A list of possible options is at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=SampleTypeLookUp
CollectionReplicate	Collection Replicate	numeric	Used to distinguish between replicates created at a single collection in the field. Replicate samples that are collected at the same station and date should either have a value of "2" or "3." Samples collected on different dates, even if they are from the same station, should both have a value of "1." Default value is also "1."
ResultsReplicate	Lab Replicate	numeric	Used to distinguish between replicates created in the laboratory. It differentiates the original field sample that was analyzed from all subsequent laboratory duplicates. Default value is "1."
LabBatch	Lab Batch	text	A unique code, provided by the laboratory, that represents a group of samples processed together. It groups all environmental samples with their supporting QC samples and is used to verify completeness based on the SWAMP QAPrP. It also identifies all samples digested or extracted together in one batch. When a digestion or extraction is not performed as part of the method, the LabBatch represents all samples within a unique analysis run. Format is "Batch#-AgencyCode" (e.g. "Batch1-SCCWRP").
LabSampleID	Lab Sample ID	text	An ID assigned by the lab; intended to provide lab-specific identification for an analyzed sample. The format and content is determined by the lab. May have "- Dup," "-MS," or "-MSD" to the end of the ID to help confirm the SampleType and the LabSampleID of the native sample. If the lab does not assign the samples an ID, this column is left blank.
MatrixName	Matrix Name	text	Refers to the sample matrix; the substance in which the analyte is evaluated in or the components of a sample other than the analyte of interest (e.g. "samplewater", "tissue"). Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=MatrixLookUp
MethodName	Method Name	text	Refers to the method used by the laboratory to analyze the sample. Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=MethodLookUp
Analyte	Analyte	text	Combination of the Analyte Name and Fraction. The Analyte Name is the name of the analyte or parameter for which the analysis is conducted and result is reported. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=AnalyteLookUp The Fraction is a specific descriptor of the Analyte. For example, metals are often expressed as total or dissolved and therefore this description is noted in the fraction field. A list of possible options is available at this link: https://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=FractionLookUp
Unit	Unit	text	Indicates the units used in the measurement of the analyte. Chemistry results are indicated by weight of analyte/volume of sample (e.g. "ng/L"). Results from sediment and tissue samples are indicated by weight/weight and includes whether the sample result is reported as wet weight (ww) or dry weight (dw) (e.g. "ng/g ww"). Surrogate recovery results use a unit of "%". Toxicity test results are recorded as percent that survived ("%"), weight of surviving individuals ("mg/ind"), cells per volume ("cells/ml"), reproduction rate ("neonates/adults"), etc. Taxonomic units are indicated by "count" or volume/area (e.g. "um3/cm2"). A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=UnitLookUp
Result	Result	numeric	Final numeric result of a given analyte. The result should be reported with the appropriate number of significant figures. Result may be left blank as long as an appropriate ResQualCode is provided.
Observation	Observation	text	Observations made in the field where samples were collected.
MDL	Method Detection Limit	numeric	The Method Detection Limit (MDL) is the detection limit associated with the method used to measure the analyte in the sample. This is the lowest possible calculated level, or the minimum concentration of an analyte that can be reported with a stated level of confidence that the analyte concentration is greater than zero. If an MDL is unknown, then the default value is "- 88" with a QACode of "NMDL."

For more information, see the CEDEN lookup lists (available here: https://ceden.org/CEDEN_checker/Checker/LookUpLists.php) and the CEDEN data submission guidance documents (available here: https://ceden.org/ceden_datatemplates.shtml)
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Column	Label	Type	Description
RL	Reporting Limit	numeric	Stands for "Reporting Limits" of the sample analyzed is the minimum value below which data are documented as non- quantifiable, as determined by the laboratory. The default value of “-88” is utilized for surrogates, grain size samples, or if no RL was used.
ResultQualCode	Result Qualifier Code	text	A code that indicates specific details about the analytical result of the sample, such as if the analyte was detected but not quantifiable or if the result was a field estimation. Default value is “=”, which means that the recorded result is the actual result. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ResQualLookUp
QACode	Quality Assurance Code	text	Codes that indicate data quality by describing any special conditions, situations or outliers that occurred during or prior to the analysis to achieve the result. The default code, indicating no special conditions, is "None." A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=QALookUp
BatchVerification	Batch Verification	text	Unique code referencing the Verification of a Batch. Uses “NR” if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=BatchVerificationLookUp
ComplianceCode	Compliance Code	text	Unique code referencing the compliance with the associated Quality Assurance Project Plan (QAPP). "Com" is used when all standards are met for the associated QAPP. Default value equals "NR" if unknown. A list of possible options and definitions is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ComplianceLookUp
SampleComments	Sample Comments	text	Used for any notes or comments specifically related to the sampling event at a particular station and/or the verification of GIS station information.
CollectionComments	Collection Comments	text	Comments referring to the lab collection of the sample.
ResultsComments	Result Comments	text	Any comments related to the results or analysis of the sample.
BatchComments	Batch Comments	text	Records any comments relating to the LabBatch as a whole. Comments should explain any irregularities in sample processing.
EventCode	Event Code	text	Represents the primary reason for the sampling event at a particular station and date (e.g. for water quality, a time series, or bioassessment sampling). A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=EventLookUp
ProtocolCode	Protocol	text	Represents the sampling protocol used, which includes the set of methods, methodology and/or specifications, such as "MPSL- DFG_Field_v1.0." Default value is "Not Recorded." LabQA samples will have "Not Applicable." A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=ProtocolLookUp
SampleAgency	Sampling Agency	text	Refers to the organization or agency that collected the sample. Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=AgencyLookUp
GroupSamples	Group Samples	text	An Identifier used to group samples by the project staff. Not a required field.
CollectionMethodName	Collection Method Name	text	Refers to the general method used to collect the sample, organism, or field observation. Depending on the data types, different types of collection methods will be stated. Some examples are: "Algae_SWAMP," "BMI_CSBP_Transect", "Sed_Core", "Water_Grab", "Autosampler24h", "Habitat_Generic", etc. The default value of "Not Recorded" is utilized if method is unknown. LabQA samples utilize "Not Applicable." A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=CollectionMethodLookUp
Latitude	Target Latitude	numeric	The latitude in decimal degrees of the sample site (should be positive).
Longitude	Target Longitude	numeric	The longitude in decimal degrees of the sample site (should be negative).
CollectionDeviceDescription	Collection Device	text	Name of the device used to collect the sample (e.g. "MPSL- Eboat_(BigE)", "WPCL-DFG Gill Net 1(50m,1.5")", "Individual Collection by bucket sampler", etc.). Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=CollectionDeviceLookUp
CalibrationDate	Calibration Date	timestamp	CalibrationDate refers to the date the collection device was calibrated. Uses January 1, 1950 if the actual date the equipment was calibrated is unknown.
PositionWaterColumn	Position Water Column	text	Position in water column where the sample was taken (e.g. "Surface", "Midcolumn", "Nearbottom"). Use “Not Applicable” if unknown. A list of possible options is available at the following site (Note: search the first column in the table for "PositionWaterColumnList"): http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=VariableCodesLookUp
PrepPreservationName	Preparation Preservation Name	text	References the preparation or preservation method performed on the samples prior to analysis. Default value equals "Not Recorded" if unknown. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=PrepPreservationLookUp
PrepPreservationDate	Preparation Preservation Date	timestamp	Date and time the preparation or preservation was started. Deflaut value is January 1, 1950 00:00 if the date and time the process started isn’t known or if no process was performed.
DigestExtractMethod	Digest/ Extraction Method	text	References the type of digestion or extraction method performed on the sample prior to analysis. Default value equals "Not Recorded" if unknown or if no digestion or extraction method was performed. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=DigestExtractLookUp
DigestExtractDate	Digest/ Extraction Method Date	timestamp	The start date and time the digestion or extraction was performed on the sample. Deflaut value is January 1, 1950 00:00 if unknown or if no digestion or extraction method was performed.
AnalysisDate	Analysis Date	timestamp	The date and time the sample was processed on the analytical instrument. Deflaut value is January 1, 1950 00:00 if unknown.
DilutionFactor	Dilution Factor	numeric	Factor by which a sample was diluted and is reported as a whole number. This is equal to the final volume divided by the initial volume of solution (i.e. DF = Vf ÷ Vi). For example, if the DilutionFactor is 100, for every 100 parts of the diluted sample, 1 part is the original sample. A value of “1” means no dilution was performed.
ExpectedValue	Expected Value	numeric	The concentration of the analyte in a reference standard, laboratory control sample, matrix spike sample, or the value expected to be obtained from analysis of the QC sample. This consists of the native sample result concentration plus the spike amount. For surrogate samples, the expected value should be "100", representing 100%.
LabAgency	Lab Agency	text	The organization, agency, or laboratory that performed the analysis on the sample. Default value equals "Not Recorded" if unknown. A list of possible agencies is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=AgencyLookUp
SubmittingAgency	Submitting Agency	text	The organization or agency that is responsible for submission of the data to the database. A list of possible options is available at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=AgencyLookUp

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SubmissionCode	Lab Submission Code	text	A unique batch qualifier code assigned to the LabBatch as a whole by the analyzing laboratory which references the quality of the data in the entire batch. The SubmissionCode should be reviewed by the Project Manager, or other appropriate person, to ensure that the code has been applied based on project- specific data quality objectives and criteria. Default value equals "NR" if unknown. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=LabSubmissionLookUp
OccupationMethod	Occupation Method	text	The means by which a crew entered or occupied the sampling location and collected a sample (e.g. "Walk In", "RV Questuary", "From Bridge", etc.)
StartingBank	Starting Bank	text	The bank of the stream from which measurements began (i.e. on the left bank or right bank) A list of possible options is available at the following site (Note: search the first column in the table for "StartingBankList"): http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=VariableCodesLookUp
DistanceFromBank	Distance From Bank	numeric	The measured distance from the stream bank where the sample was taken. Null if not applicable, or "-88" if not recorded.
UnitDistanceFromBank	Unit Distance From Bank	text	The units used to measure the DistanceFromBank. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=UnitLookUp
StreamWidth	Stream Width	numeric	Width of the stream where the sample was collected. Default value is "-88" if unknown.
UnitStreamWidth	Unit Stream Width	text	The units used to measure the StreamWidth. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=UnitLookUp
StationWaterDepth	Station Water Depth	numeric	Depth of the water at the area where the sampling station is located. Null if unknown or not applicable.
UnitStationWaterDepth	Unit Station Water Depth	text	The units used to measure the StationWaterDepth. A list of possible options can be found at this link: http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=UnitLookUp
HydroMod	Hydrological Modification	text	Indicates if there is any type of alterations in the natural watershed hydrology associated with changes in land cover and use, or notes any observed hydrological modification on the waterbody that was sampled (e.g. "Pipes", "bridges", "ConcreteChannel", etc.). Default value is "NR" if unknown. A list of possible options is available at the following site (Note: search the first column in the table for "HydromodList"): http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=VariableCodesLookUp
HydroModLoc	Hydrological Modification Location	text	Codes that refer to the location of the hydrological modification (HydroMod field). A list of possible options is available at the following site (Note: search the first column in the table for "HydromodLocList"): http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=VariableCodesLookUp
LocationDetailWQComments	Location Detail WQ Comments	text	Comments regarding observations about the location from which samples were taken, how the samples were taken, or comments about the samples themselves.
ChannelWidth	Channel Width	text	The width of the channel where the sample was collected. Default value equals "None" if unknown or not recorded. This field is optional so it could be blank.
UpstreamLength	Upstream Length	text	The measured distance upstream where the recorded sample was taken. Default value is "None" if not applicable.
DownStreamLength	Down Stream Length	text	The measured distance downstream where the recorded sample was taken. Default value is "None" if not applicable.
TotalReach	Total Reach	text	Transposed value of the analyte "Length, Reach" which records the total length of a reach that was sampled for bioassessment. If this value was not recorded, then value will be blank or "-88."
LocationDetailBAComments	Location Detail BA Comments	text	Comments regarding the location from which bioassesment measures were taken.
SampleID	Sample ID	text	A unique identifier supplied by the sampling agency, and is used to track the sample throughout the sampling and analysis processes. This field can be used to tie a result to the sample.
DW_AnalyteName	DW Analyte Name	text	A more detailed name for the analyte. This field is included to assist with data reporting.
DataQuality	Data Quality	text	Describes the overall quality of the record by taking the QACode, ResultQACode, ComplicanceCode, BatchVerificationCode, and special circumstances into account to assign it to one of the following categories: - "Metadata, QC record"- Not a measurement of environmental conditions - "Passed QC"- Data passed all QC checks - "Some review needed"- Data did not pass minor QC checks, some effort needed to review and defend data if used - "Spatial Accuracy Unknown"- Data missing spatial datum information, data should not be used for fine scale spatial analysis - "Extensive review needed"- Data did not pass QC some critical checks, high level of effort needed to defend data if used - "Unknown Data Quality"- Data was not reviewed by the project. Data will need review before use - "Reject Data"- Data was rejected by the project or data did not pass all critical QC checks. Data deemed unusable The assignments and categories are provisional. A working explanation of the data quality ranking can be found at the following link. This link is open to public comments as well: https://docs.google.com/spreadsheets/d/1q-tGulvO9jyT2dR9GGROdy89z3W6xulYaci5-ezWAe0/edit?usp=sharing.
DataQualityIndicator	Data Quality Indicator	text	Explains the reason for the DataQuality value by indicating which quality assurance check the data did not pass (e.g. BatchVerificationCode, ResultQACode, etc.). If this field contains "Special Rule," this indicates that the data falls into a special circumstance that decreases data quality. This field is left blank for values "Metadata, QC record" and "Passed QC." The assignments and categories are provisional. A working explanation of the data quality ranking can be found at the following link. This link is open to public comments as well: https://docs.google.com/spreadsheets/d/1q-tGulvO9jyT2dR9GGROdy89z3W6xulYaci5-ezWAe0/edit?usp=sharing.
Datum	Datum	text	Represents the associated model of the Earth from which reference points are used to calculate position measurements. GPS devices commonly use datums such as "NAD83" and "WGS84." Default value equals "NR" if unknown. A list of possible options is available at the following site (Note: search the first column in the table for "DatumList"): http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=VariableCodesLookUp

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