



Environmental Monitoring Database (EMD) Process for PFAS Data Collected at Waste Sites

The NHDES Waste Management Division (WMD) requests that all analytical results for per- and polyfluoroalkyl substances (PFAS) be uploaded to the NHDES Environmental Monitoring Database (EMD). Storage of PFAS analytical data in EMD allows NHDES to use GIS in a state-wide assessment of the data.

This purpose of this document is to provide *supplemental* guidance to clarify and streamline the upload process for PFAS data. Additional guidance on uploading data to EMD is available after logging into the One Stop Data Provider page linked below.

For questions about submittal of PFAS data to EMD, please contact *Sam Fontaine* (Samuel.Fontaine@des.nh.gov) at (603) 271 – 2979.

Those who upload data to EMD must register as an “OneStop Data Provider” by going to <https://www2.des.state.nh.us/OnestopDataProviders/DESLogin.aspx> and applying for the activity “Upload Station or Activity Data for the Environmental Monitoring Database (EMD)”. Alternatively, you may register by emailing Melanie.Cofrin@des.nh.gov and requesting access.

The EMD upload process follows two steps:

1. Establishing “stations” (i.e., sampling locations); and
2. Reporting “activities” (i.e., sampling results).

Step 1 – Establishing Stations

- 1) Consultant generates Stations using the *Station Template* (*.xls format) following the directions provided on the “EMD Column Descriptions tab” in the *Station Template* and the *General Site Remediation Station and Activity Guidance* document available at the link above. **The template contains a tab with specific clarifications and instructions for PFAS data.**

Some of the common errors observed by NHDES in our review of the Station information in EMD are summarized below:

- Duplicate locations have been created for stations already stored in EMD, sometimes with different naming conventions. ***Please confirm whether stations have already been established in EMD prior to generating new stations for a site.*** Discuss with your project manager if you are unsure. Existing stations may have been established for other purposes, and may follow different naming conventions.

- Project ID – HWRB vs HWR/ORCB vs. etc. Please use HWRB
- Station Names – ***Please follow the "Site Remediation Station Creation Guidance."*** Do not use hyphens in names – it can lead to errors with the database and GIS software.
- Locations – Confirm that the LatDecDeg and LongDecDeg are appropriate for the site. Online mapping websites are useful tools to check that the location information is correct. Use "Interpolation-Satellite" if using an online mapping website to identify the station location.
- WellUsage – be specific, rather than choosing "unknown."
- WaterVapUsage – be specific, rather than choosing "unused."

For reference, a printout of the *Station Template* with the "EMD Column Descriptions" tab and an example dataset for the *Station Template* are attached to this guidance document

- 2) Consultant should upload the *Station Template* to EMD via the OneStop provider tool: <https://www2.des.state.nh.us/OnestopDataProviders/DESLogin.aspx>. The upload will be accepted by NHDES Data Management staff for format only. The WMD Project Manager will not review the stations at that time. The upload should be completed at least 1 week prior to the sampling event.
- 3) Consultants should consider providing station IDs to the laboratories on chain-of-custody forms so those IDs can be used to upload activity data (see Step 2) unless other arrangements are made between the consultant and their laboratory.

Step 2 – Reporting Activities

- 1) Analytical data needs to be provided on the *Activity (Sample) Template* (*.xls format). Alternatively, the project can use the *Activity (Sample) Template – Lite Version*. Follow the directions provided on the "EMD Column Descriptions tab" in the *Activity (Sample) Template* and the *General Site Remediation Station and Activity Guidance* document. **The template contains a tab with specific clarifications and instructions for PFAS data.**

Some of the common errors observed by NHDES in our review of the Activity information in EMD are summarized below:

- Only primary samples and field duplicate data should be added to EMD. Please do not provide other QA/QC data (e.g., surrogate recoveries).
- Station ID /Monitoring Location Identifier - This must be the SAME as the Station ID on the Station Template (NHDES suggests that the Station ID is provided to the laboratory on the chain-of-custody to facilitate laboratory uploads). If the identifier is not the same, then the data will not be retrievable.

- Project Identifier – Enter “PFAS”. The type of release category has been moved to Column R SampleComments to simplify the upload. The SampleComments field allows 4,000 characters, so additional comments can still be added in Column R if needed.
- Column V – SampleAnalyticalMethodIdentifier (AnalyticalMethod) updated to include latest USEPA Method 537.1 (issued November 2018 for 18 compounds, including GenX).
- Column Y – Substance Identifier (AnlyateCode). PLEASE upload all data based on the CAS Number and not the analyte / parameter name. Even with the emerging agreements in nomenclature between science and industry, some data has been provided to NHDES with incorrect matches between parameter names and CAS Numbers. NHDES has updated CAS numbers and parameter name matches in the EMD. For further information, see the Analytes tab in the Activity Import Template.
- Please DO NOT enter text fields as “ND” or “BDL” or similar text to describe a non-detect result. Reporting limits cannot be evaluated in the future. Rather, you have to make one of two choices to enter non-detect results:
 - (1) **This is the preferred method.** Populate Column AB ResultMeasureQualifierCode (LAbQual) with “U” and **DO NOT** populate Column AC ResultMeasureValue (leave Column AC blank). The upload software will automatically populate Column AC ResultMeasureValue in the EMD to show a value of “<RDL” (by pulling the RDL value from ColumnAG, RDLMeasureValue).

Alternatively,

- (2) Populate Column AC ResultMeasureValue as either a text result (for example, “<0.25”) OR as a mixed entry of a numeric RDL and text qualifier (for example “0.25 U”). DO NOT populate Column AB ResultMeasureQualifierCode (LAbQual) (leave Column AB blank).

Example of Preferred Method of Data Entry for Non-Detect Results

Column Location & Name	Column AB - ResultMeasureQualifierCode	Column AC - ResultMeasure Value	Column AD – Result Measure Units	ColumnAG - RDLMeasure Value	Column AH - RDLMeasure Unit	
Example – Not Detected	U	Leave blank!	ng/L	0.01	ng/L	EMD Stores: <0.01 ng/L
Example – Not Detected		0.01U or <0.01	ng/L	0.01	ng/L	NOT PREFERRED

- Column AD (ResultMeasureUnit [ResultUnits]) and Column AH (RDLMeasureValue [DetLim]) allows various units to be entered in EMD. NHDES requests that aqueous PFAS data be uploaded in units of nanograms per liter (ng/L). Please only upload aqueous data in units of mass per unit volume - do not use parts per trillion (ppt) (or ppb or ppm). Similarly, please only upload solids data in mass per unit mass (for example, micrograms per kilogram [$\mu\text{g}/\text{kg}$]).

For reference, a printout of *Activity (Sample) Template – Lite Version* with the “EMD Column Descriptions” and an example template are attached to this guidance document. The upload of the *Activity (Sample) Template* can be completed by either the laboratory or the consultant, as determined on a project-specific basis. In most cases, it is likely most efficient for the laboratory to complete the upload to EMD. There may be projects when the consultant may choose to upload, such as when:

- The information needed to complete **Columns J through P** (sample event depth measurements and units) is known by the consultant and not readily available to the laboratory (e.g., when soil sampling depths need to be entered);
 - Blind duplicates are collected for QA/QC analysis, it may be applicable for the consultant to populate **Column E** (Duplicate/Replicate Sample Identifier); or
 - The data will be validated and thus the consultant may need to edit data or provide validation comments on **Column AI** (Substance Analysis Comments) and **Column AM** (Results Status). (It is expected that this will only apply to few projects.)
- 2) The *Activity (Sample) Template* upload should be completed within 45 days of completion of sampling. The upload will be reviewed for acceptance by NHDES Data Management staff for format only. The WMD Project Manager will not review the data at that time.

The WMD Project Manager will complete a limited review of the data in the EMD when reviewing the laboratory analytical reports provided with the formal project submittal. Note that any site-specific decisions will be based on the project-specific reports and related documentation uploaded to the WMD digital library (i.e., OneStop) (and not the EMD).

Attachments

Attachment A – *Station Template*

Attachment B – *Activity (Sample) Template (Lite Version)*

ATTACHMENT A

EMD Stations Template Column Descriptions

EMD Stations Template Column Descriptions						
Schema Column Name Used in Template	Column Description	Format Considerations (Columns dependent on pick lists are highlighted in orange. See "EMD Pick Lists" worksheet)	Example	Size/Type	Required?	Comments for PFAS Projects (gray shaded cells are not required for all uploads) (no clarifications needed for rows with no comments)
ProjID	Project ID the station is associated to/related. In the Sample-Activity Template, this column	Pick list. Must be valid ID. Contact project manager	HWR/ORCB	Ch (15)	Yes	Use "HWRB"
SiteNumber	Site/facility/system number the station is associated to/related. In the Sample-Activity Template, this column is called "FacilitySiteIdentifier".		2003040123	Ch (20)	Conditionally required if ProjID = "HWR/ORCB", then a valid site number must be entered.	
StationID	ID for the location where samples/measurements are taken. In the Sample-Activity template, this column is called "MonitoringLocationIdentifier".	Must be a unique station ID. If it already exists in the database, you will be prompted to create a different value or see if station has already been submitted.	2003040123MW1	Ch (15)	Yes	FIRST check with the Site Project Manager if Station Names already exist in EMD! Do not create duplicate locations. See " Site Remediation Station Creation Guidance" spreadsheet for the codes from which to choose. Limited to 15 characters: Site Number (9 characters [e.g., 199904001]) + Station Type Code (2 characters [e.g., MW = monitoring well]) + Digit Code (can be up to 4 characters, not limited to 2 as the guidance indicates [e.g., "GZA2", "101S"]) + Treatment Code (only if needed) For example, drinking water well samples at the example site would be: - 199904001DW01 (for a sample collected directly from a well or tap with no treatment) - 199904001TS011 (for a sample collected at the influent to a treatment system [the raw well water]) - 199904001TS01E (for a sample collected at the effluent from a treatment system [the distribution tap])
AliasID	Alias (alternate) ID for the station. In the Sample-Activity Template, this column is called "MonitoringLocationAlternateName".		GZA-1	Ch (25)	No	Not required (provide only if needed). For example, if the Station ID character limit is exceeded, then clarify the name using this field (e.g., Station ID "200907005MWGZA101S" exceeds the character limit so use "200907005MW101S" as the Station ID and enter "GZA-101S" in the Alias ID).
StatName	Brief, geographically descriptive name for the station.		Monitoring well 1 at NW corner of tank area.	Ch (100)	Yes	
Address	Address for the station.		12 Maple Street	Ch (50)	No	
Town	Town the station is in. Proper town names	Pick list.	Hopkinton	Ch (40)	Yes	
County	County the station is in.	Pick list.	Merrimack	Ch (20)	Yes	
State	State the station is in.	Pick list.	NH	Ch (2)	Yes	
TaxMap	Tax map for the station.		125	Ch (20)	No, except required for Waste Management Division (WMD)	
TaxLot	Tax lot for the station.		U-3	Ch (20)	No, except required for WMD submittals.	
StatType	Station type.	Pick list.	Well	Ch (45)	Yes	
DateEst	Date the station was established or drilled.	MM/DD/YYYY	04/01/2003	Date	No	Not required (provide if possible).
StatDescr	Description of the station.		4" driven well on the NW edge of the tank excavation area. Well	Ch (4000)	No	Not required (provide only if needed).
StatDir	Directions to the station.		Station is at SE corner of the property where UST tank was formerly located.	Ch (1999)	No	Not required (provide only if needed if you feel there is additional important information about the sampling location). Please separate information by commas to allow for future export of the data into a CSV file.
LatDecDeg	Latitude location of station in decimal		42.7658	N (8.6)	Yes	
LongDecDeg	Longitude location of station in decimal degrees prefaced with - value for this area.		-71.2345	N (9.6)	Yes	
DateLoc	Date the station was located.	MM/DD/YYYY	05/10/2003	Date	No	Not required.
GeoMeth	Method used to determine the	Pick list.	GPS corrected	Ch (45)	Yes	
Scale	Scale used if latitude/longitude coordinates were derived from a map, photo etc.		1:24,000	Ch (10)	Conditionally required if GeoMethod is other than via GPS.	Not required (provide only if needed).
GeoDatum	Datum used to determine the	Pick list.	World Geodetic	Ch (30)	Yes	
Elev	Elevation measurement for the station.		256.9	N (6.2)	No	Not required (provide if possible).
ElevUnits	Units for elevation.	Pick list.	Ft	Ch (2)	Conditionally required if Elev is	Not required (provide only if needed).
ElevMeth	Method used to determine the elevation.	Pick list.	Differential Mode GPS	Ch (65)	Conditionally required if Elev is	Not required (provide only if needed).
ElevDatum	Datum used to determine the elevation.	Pick list.	WGS 1984	Ch (25)	Conditionally required if Elev is	Not required (provide only if needed).
Active	Whether the station is active (still exists) or not.	Y or N	Y	Ch (1)	No	Not required (provide if possible).
WellUsage	The primary usage for the well.	Pick list.	Monitoring	Ch (40)	Conditionally required if StatType1 = "Well".	Only use for a well.
WaterVapUsage	The primary usage for the water/air from the well.	Pick list.	Sampling-Water	Ch (40)	Conditionally required if StatType1 = "Well".	Only use for a well.
StrataType	Type of material the well has been constructed in.	Pick list.	Overburden	Ch (30)	Conditionally required if StatType1 = "Well".	Only use for a well.
WellDepth	Depth of the well		12.6	N (6.2)	No, except required for WMD submittals and StatType = Well.	Only use for a well.
WellUnit	Units for the WellDepth and following measurement related columns. All should be	Pick list.	Ft	Ch (15)	Conditionally required if WellDepth, TopCasing, DTopScreen, or	Only use for a well. Not required (provide if possible).
TopCasing	Top of casing elevation for the well.		88.62	N (6.2)	No, except required for WMD submittals and StatType = Well.	Only use for a well. Not required (provide if possible).
TopCasingMethod	Locational method used to determine top of casing elevation.	Pick list.	Conventional Survey	Ch (65)	Conditionally required if TopCasing is entered.	Only use for a well. Not required (provide if possible).
TopCasingDatum	Elevation datum used to determine top of casing.	Pick list	Local Land Datum	Ch (65)	Conditionally required if TopCasing is entered.	Only use for a well. Not required (provide if possible).
TopCasingDatumO	Used to further define TopCasingDatum if it = "Local Land Datum" or "Other"		Top of hydrant = 100.00	Ch (65)	Conditionally required if TopCasingDatum = "Local Land Datum" or "Other".	Only use for a well. Not required (provide if possible).
DTopScreen	Depth to top of screen (not elevation).		2.74	N (6.2)	Conditionally required if DBotScreen is entered. Required for WMD submittals where StatType = Well	Only use for a well. Not required (provide if possible).
DBotScreen	Depth to bottom of screen.		10.52	N (6.2)	Conditionally required if DBotScreen is entered. Required for WMD submittals where StatType = Well	Only use for a well. Not required (provide if possible).

ATTACHMENT B

EMD Sample-Activity Template Column Descriptions

EMD Sample-Activity Template Column Descriptions								
Column Location	Schema Column Name Used in Template	EMD Column Name (for staff purposes only)	EMD Column Description	Format Considerations (Columns dependent on pick lists are highlighted in orange. See "EMD Pick Lists" worksheet for pick list values or where otherwise indicated.)	Examples of expected values in EMD	Size/Type	Required?	Comments for PFAS Projects (gray shaded cells are not required for all uploads) (no clarifications needed for rows with no comments)
A	MonitoringLocationIdentifier	StationID	ID for the station (location) where the activity occurred. In the Station template, this column is called "StationID".	Must match a valid existing StationID (MonitoringLocationIdentifier). Leave blank if activity is related to other activities (such as a Trip Blank) and use a corresponding appropriate SamplePurpose value.	04-CGF	Ch (15)	Yes except if SamplePurpose = "QC Sample", then leave blank.	This must be the SAME as the Station ID on the Station Template (Recommend consultant provides to lab on COC)
B	LaboratorySampleIdentifier	ActivityID	ID for the activity. Usually it is the laboratory sample ID if it is a sample. If it is a field measurement, an appropriate ID must be created. A suggested format is to start with a few characters from the ProjectIdentifier and concatenate with the sample date and then a sequence # to differentiate samples taken on the same day for the same project.	Must be unique.	SA48679-1 VL10100901	Ch (25)	Yes	
C	ProjectIdentifier	ProjID	ID of the project (purpose of sampling) the station (MonitoringLocationIdentifier) is related or associated to. In the Station template, this column is called "ProjID".	Pick list. Must be a valid ID. Contact project manager for correct ID. Valid combo of ProjectIdentifier to MonitoringLocationIdentifier must exist prior to associating a sample to the match. Relationships are made via Station file uploads or by DES staff.	VLAP	Ch (15)	Yes, except if SamplePurpose = "QC Sample" then leave blank.	Enter "PFAS"
D	SamplePurpose	ActType	Type of activity (such as a routine sample or field measurement or QC trip blank sample). If both field measurements and lab sample results are contained in the same activity, label it as sample or QC sample (if appropriate) instead of a field measurement.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Sample - Routine	Ch (70)	Yes	See pick list - typically "Sample - Routine" or "Quality Control Sample-Field Duplicate" is used. At this time, QA/QC data other than duplicates (e.g., field blank, trip blank, equipment blank, LS/LSDs and MS/MSDs) is not required.
E	Duplicate/ReplicateSampleIdentifier	RepNumber	The ID of the activity the current activity is a duplicate or replicate of (if applicable).		SA48679-9	Ch (12)	Conditionally required if SamplePurpose contains the words "Replicate" or "Duplicate".	If the sample is a duplicate, enter the Lab ID of the primary sample. If primary sample ID is unknown then enter "Blind". Otherwise, not required.
F	SampleCollectionIdentifier	SC_ID	ID for the sample collection method used	Pick list. Latest values can be obtained from OneStop Data Provider web site. A list is also in "Samp Coll Meth" worksheet but may not be current. If not a registered OneStop Provider and need current info or to add a method, call (603) 271-1152.	VLAPTRIP	Ch (10)	Yes	Enter "PFAS"
G	FieldActivityStartDate	StartDate	Date the activity began or was collected.	MM/DD/YYYY	10/10/2008	Date	Yes	Sample collection date.
H	FieldActivityStartTime	StartTime	Time (military) the activity began or was collected.	24HH:MM:SS	13:56:00	Time	No	Not required
I	RainPrior	RainPrior	Whether precipitation occurred within 72 hours of the activity start time (FieldActivityStartTime).	Y or N.	Y	Ch (1)	No	Not required
J	SampleEventDepthHeightMeasure	Depth	Depth to where the activity was sampled/measured.		1.5	N (7.2)	No	Only required for soil data
K	SampleEventDepthHeightUnit	DepthUnits	Depth units.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Ft	Ch (2)	Conditionally required if Depth/AltitudeMeasurementValue is entered.	Only required for soil data
L	SampleEventDepthAltitudeReferencePoint	DepthMeasFrom	Depth measured from (such as surface, bottom etc.)		Surface	Ch (125)	No	Only required for soil data
M	SampleEventTopDepthHeightMeasure	UpDepth	Upper depth in range for activity.		1	N (7.2)	No	Only required for soil data
N	SampleEventTopDepthHeightUnit	RangeDUnits	Units for depth ranges - both top and bottom values.	Pick list. Units for both top and bottom depths are assumed to be the same. See "SampleEventDepthHeightUnit" values in "EMD Pick Lists" worksheet for allowable values.	Ft	Ch (2)	Conditionally required if TopDepth/AltitudeMeasurementValue or BottomDepth/AltitudeMeasurementValue is entered.	Only required for soil data
O	SampleEventBottomDepthHeightMeasure	LowDepth	Lower depth in range for activity.		2	N (7.2)	No	Only required for soil data
P	SampleEventDepthZone	DepthZone	Depth zone for activity.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Midwater Epilimnion	Ch (15)	No	Only required for soil data
Q	SamplerIndividualFullName	Personnel	Person(s) conducting the activity,	First initial followed by a period and last name with names separated by commas.	B. Smith, J. Jones	Ch (256)	No	Not required

EMD Sample-Activity Template Column Descriptions

Column Location	Schema Column Name Used in Template	EMD Column Name (for staff purposes only)	EMD Column Description	Format Considerations (Columns dependent on pick lists are highlighted in orange. See "EMD Pick Lists" worksheet for pick list values or where otherwise indicated.)	Examples of expected values in EMD	Size/Type	Required?	Comments for PFAS Projects (gray shaded cells are not required for all uploads) (no clarifications needed for rows with no comments)
R	SampleComments	ActCmts	Activity comments. Includes all lab and field comments about the overall activity/sample.		Birds swimming nearby.	Ch (4000)	No	Select the appropriate ID for the PFAS release type (note there are options for other, mixed, and unknown). Leave blank for a trip or field blank sample. Enter one of the following for any routine or duplicate sample: Mfg-textile = Manufacturing – textiles Mfg-paper = Manufacturing – paper Mfg-plastic = Manufacturing – plastic Plating/Metal = Metalworking, plating facilities, machine shops Semi-condr = Semi-conductor industry Waste Mgmt = Waste management facilities (landfills, scrap yards, metal recycling) AG = Agriculture (e.g. pesticides, wetting chemicals) Class B Foam = Applications of Class B Foam / AFFF Consumer = Consumer products (e.g. waxes, sealants, cosmetics, cleaners, treated fabrics) Petroleum = Petroleum use Mixed = Mixed sources Other = Other sources Unknown = Unknown sources Drycleaner = Dry cleaning and laundering
S	BatchReceiptExceptionIndicator	SampleReceiptException	Whether there was an exception to the condition or expected batch receipt procedures that might affect analytical results. A value of "N" would mean that there were no issues encountered during the sample receipt/chain of custody process.	Y or N	Y	Ch (1)	No	Not required
T	BatchReceiptCommentText	SampleReceiptComments	Text describing the reason for the BatchReceiptExceptionIndicator being set to "Y" or other characteristics of the sample receipt process which should be noted.		Samples weren't preserved on ice during transport.	Ch (4000)	Conditionally required if BatchReceiptExceptionIndicator = Y.	Not required (provide only if needed).
U	LaboratoryIdentifier	LabID	ID for laboratory that analyzed parameter.	Pick list. Must be a valid ID. Latest values can be obtained from the OneStop Data Provider web site. A list is also provided in the "Lab" worksheet but may become out of date. If another value is needed, please contact (603) 271-1152.	3000	Ch (8)	No, but desired if analysis was done by a lab.	The ID is for the laboratory that did the analysis, not a laboratory (if any), that subcontracted the service.
V	SampleAnalyticalMethodIdentifier	AnalyticalMethod	Method used to analyze the parameter.	Pick list. Latest values can be obtained from the OneStop Data Provider web site. A list has also been included in the "Analytical Method" worksheet but may not be up to date. Please call (603) 271-1152 if another method is needed.	365.2	Ch (20)	Conditionally required if SampleAnalyticalMethodIdentifierContextID is entered.	Request a modification if needed. Current list includes: • PFAS – USEPA Method 537 Rev 1.1 • PFAS – USEPA Method 537 Rev 1.1 (modified/isotope dilution) • PFAS – ASTM D7968-14 (soil) • PFAS – ASTM D7979-15 (water, sludge, wastewater) • PFAS – other • PFAS – USEPA Method 537.1 (Nov 2018) • PFAS – USEPA Method 537.1 (Nov 2018) (modified/isotope dilution)
W	SampleAnalyticalMethodIdentifierContextID	AM_Source_ID	Source of the method used to analyze the parameter.	Pick list. Latest values can be obtained from the OneStop Data Provider web site. A list has also been included in the "Analytical Method" worksheet but may not be up to date. Please call (603) 271-1152 if another source is needed.	USEPA	Ch (15)	Conditionally required if SampleAnalyticalMethodIdentifier is entered.	
X	AnalysisMatrix	Medium	Sample medium (such as soil, water etc.)	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Water	Ch (8)	Yes	
Y	SubstanceIdentifier	AnalyteCode	Code for the parameter/substance.	Must be a valid code based on the AnalyteCodeContext. Latest values can be obtained from the EMD Provider form on the web. A list is also provided in the "Analytes" worksheet but may become outdated. If a parameter is needed, please call (603) 271-8863.	7723-14-0		Conditionally required if AnalyteCodeContext is entered.	EMD has been updated with CAS #s for more than 30 PFAS. Upload based on the CAS # and NOT the Parameter Name. See the PFAS analyte summary tab.
Z	SubstanceCodeContext	AnalyteCodeContext	Coding system (such as CAS) used for the SubstanceIdentifier.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	CAS		Conditionally required if AnalyteCode is entered.	
AA	SubstanceName	AnalyteName	Parameter/substance name.	Pick list. Latest values can be obtained from the EMD Provider form on the web. A list has also been added to the "Analytes" worksheet but may not be current. If a parameter is needed, please call (603) 271-8863.	PHOSPHORUS AS P	Ch (120)	Conditionally required if AnalyteCode and AnalyteCodeContext are not entered.	
AB	ResultMeasureQualifierCode	LabQual	Qualifier used by the lab for the results.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet. If a value of "U" is submitted with no result value, then the data will automatically be converted and uploaded with a result value of <RDL.	U	Ch (1)	No	

EMD Sample-Activity Template Column Descriptions

Column Location	Schema Column Name Used in Template	EMD Column Name (for staff purposes only)	EMD Column Description	Format Considerations (Columns dependent on pick lists are highlighted in orange. See "EMD Pick Lists" worksheet for pick list values or where otherwise indicated.)	Examples of expected values in EMD	Size/Type	Required?	Comments for PFAS Projects (gray shaded cells are not required for all uploads) (no clarifications needed for rows with no comments)
AC	ResultMeasureValue	TextResult or NumResult + Qualifier	Result for the parameter/substance.		0.074	Ch (500)	No, since there may be no results for a particular parameter and the submitter wants a record that an attempt was made to collect the data during a sampling event.	
AD	ResultMeasureUnit	ResultUnits	Units for result.	Pick list. Latest values can be obtained from the OneStop Data Provider web site. A list has also been included in the "EMD Pick Lists" worksheet but may not be current. Please call (603) 271-1152 if another unit is needed.	mg/L	Ch (15)	Conditionally required if AnalyteMeasurementValue is numeric.	
AE	ResultValueTypeName	ValueType	A name that quantifies the process which was used in the determination of the result value: Actual = The value reported is the actual value reported by the instrument or the method used. Calculated = The value reported is derived, either as a result of the method used, or as the result of a mathematical computation. Estimated = The value reported is the approximate value of what is measured or analyzed.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Actual	Ch (12)	Yes	
AF	ResultBasisName	FractionType	For physically partitioned samples, this column describes the portion of the sample that was associated with the results.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Total	Ch (20)	No	Not required
AG	RDLMeasureValue	DetLim	Detection limit (reporting detection level).		0.01	N (20.5)	Conditionally required if ResultMeasureQualifierCode = U and no result value is entered.	
AH	RDLMeasureUnit	DetLimU	Units for detection limit.	Pick list. Latest values can be obtained from the OneStop Data Provider web site or in the "EMD Pick Lists" although this list may become outdated over time.	mg/L	Ch (15)	Conditionally required if RDLMeasureValue or MDLMeasureValue is entered.	
AI	SubstanceAnalysisComments	ResultCmt	Comments about the result.		Potential problem with instrument.	Ch (4000)	No	Use only if needed. Additional validation flags, if needed, can be added here.
AJ	SubstanceUpperControlLimit	UpQLim	Upper quantification limit.		10	N (20.5)	No	Not required
AK	StatisticalBaseCode	StatType	Statistical type (mean, min, max etc.) if result is inclusive of more than one measurement/sample for the parameter/substance.	Pick list. Values can be found in the "EMD Pick Lists" worksheet in this spreadsheet.	Mean	Ch (25)	Conditionally required if StatisticalSampleSize is entered.	Not required
AL	StatisticalSampleSize	SampSize	Number of measurements/samples used to determine the StatisticalBaseCode.		3	N (2.0)	Conditionally required if StatisticalBaseCode is entered.	Not required
AM	ResultStatus	Valid	Whether the result meets quality assurance project and program plans (QAPPs) or other quality control protocols.	Y or N	N	Ch (1)	No	Only use if data are validated (validated results should be uploaded)