EIM Help - Bioassay Template

Version 5.0
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How to Use This Help

Use the grid below when you fill out your **Bioassay template**. Each row corresponds to a column in the template. Download additional help for Bioassay Data in the EIM Help Center.

Color Coding

Color coding gives a quick indication of required fields. This information is also in the "Requirements" column.

- **Yellow/Bold** = **Required** for all bioassay data
- **Orange** = **Required when** Bioassay Category is Test or Reference. The information in these fields should match associated information submitted in the Result template (i.e., chemistry samples).

Things to Note

- If **Bioassay Category** is **Positive Control**, **Negative Control**, or **Initial**, **don't** fill out the orange fields (columns B-U)
- Use **Results Template** to submit associated grain size for Test and Reference sample data

Help Field Column Names and Descriptions

- **Column (Col)**: Column heading (A, B, C, etc.) in the EIM template
- **Field Name**: EIM field name
- **Description**: EIM field description
- **Requirements**: Indicates if field is required, conditionally required, or optional
- **Type**: Type of data field, like text, number, or date
- **Size**: The maximum number or length of characters allowed
- **Valid Values and Conditions**: Format or accepted values. Longer lists of valid values are at end of document or online.

- **Examples and Guidance**: Examples in bulleted list at top

Grid – How to Fill Out Your Bioassay Template

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
A	**Study ID**	**Unique ID** to identify the Study in EIM.	**Required**	Text	20	Must be valid EIM Study ID.	Use Study ID from: 1. Your Study form, or 2. A Study already in EIM In a single template, don't submit data for more than one study. To load data for more than one study, use separate templates for each.
B	Location ID	**Unique ID** to identify the field Location in EIM.	**Required for** test and reference samples	Text	15	Must be valid EIM Location ID.	Location IDs are from Column A in your Location template or an existing location in EIM. You will commonly have multiple bioassay records associated with a Location ID. The Location ID indicates a specific sampling location. All bioassay records associated with that sampling location use that Location ID.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
C	Study Specific Location ID	**Unique ID** to identify the field location within a particular Study. Only needs to be unique to the Study, not all of EIM. Can be same as Location ID, an abbreviation of Location ID, or something totally different.	**Required for** test and reference samples	Text	40	Free text / preferred format. An ID of 8 characters or less will display better on the GIS map.	▪ If your Location ID is "USACE-34586-SED-4," your Study-Specific Location ID (SSLID) could be "SED-4." SSLID is often the location identifier written on the sample jar label. Each **Location ID must be paired 1-to-1 with a SSLID**. **Once you establish a** Location ID/SSLID pairing (by submitting results), use the same pairing for all future data submittals to your study. This **ID also needs to be the same as what you used for chemistry data** in your Results template. If you aren't sure what Location ID/Study-Specific Location ID pairings were previously used in your Study, download your results data from EIM Search to view them or contact your Data Coordinator. **Download help for** How to Name and Describe Field Locations.
D	Field Collector	Name or type of organization that collected the data.	**Required for** test and reference samples	Text	15	See table of Field Collector valid values (in this document).	▪ Consultant ▪ Ecology
E	Field Collection Start Date	Date of sample collection in the field.	**Required for** test and reference samples	Date	10	MM/DD/YYYY	▪ 06/23/1999 ▪ 12/15/2022 **Note:** This isn't the date the bioassay was started in the lab. That goes in **Bioassay Start Date** field.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
F	Field Collection Start Time	Time of sample collection in field, in local time.	**Required for** test and reference samples if available	Time	8	HH:MM:SS or HH:MM ▪ Enter 24-hour time ▪ Enter local time	▪ 19:20 (interpreted as 7:20 PM) ▪ 07:00 (interpreted as 7:00 AM) ▪ 00:07:00 (interpreted as 12:07 AM) ▪ 00:00:00 (interpreted as 12 AM midnight) Leave blank for unknown time - don't enter zero.
G	Field Collection Comment	Comments or descriptive information about the collection of data in the field.	Optional	Text	2000	Free text	▪ Spatial composite sample of four individual collections **You can have only one Field Collection Comment per field collection event.** A field collection event is: ▪ All samples collected at the same location, depth, date, matrix and source, and Sample ID. **For Samples, this means you can only have one Field Collection Comment per Sample ID.** If you enter more than one Field Collection Comment per field collection event, EIM only takes the first one loaded. All Results associated with a specific field collection event have the same Field Collection Comment. If you want to comment about a particular result or group of results within a field collection event, enter it as a Result Comment or Result Additional Comment. **Download help for** How to Use EIM's Comment fields.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
H	Field Collection Reference Point	Point from which the collection depth of the field data was measured.	**Required for** test and reference samples	Text	30	▪ **Land Surface** ▪ **Water Surface** ▪ **Sediment Surface** ▪ **Floor of Structure**	**Download help for** Entering Field Collection Depth or Height.
I	Field Collection Upper Depth	Distance from the Reference Point to the upper boundary where field data was collected. Positive values represent depths below reference point Negative values represent distance above reference point. If a discrete sample is collected at one depth, Upper and Lower Depth are the same value.	**Required for** test and reference samples	Number		Must be a number.	▪ **Composite Sample**: "5" for soil sample taken between 5 and 7.5 feet below land surface ▪ **Discrete Sample**: "5" for soil sample taken from 5 feet below land surface **Download help for** Entering Field Collection Depth or Height. **Things that don't go in this field:** • Elevation

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
J	Field Collection Lower Depth	Distance from the Reference Point to the lower boundary where field data was collected. Positive values represent depths below reference point Negative values represent distance above reference point. If a discrete sample is collected at one depth, Upper and Lower Depth are the same value.	**Required for** test and reference samples	Number		Must be a number.	▪ Composite Sample: "7.5" if you were taking a soil sample between 5 and 7.5 feet below land surface. ▪ Discrete Sample: "5" if you were taking a soil sample from 5 feet below land surface. **Download help for** Entering Field Collection Depth or Height.
K	Field Collection Depth Units	Units of measure associated with the Field Collection Upper Depth and Field Collection Lower Depth.	**Required for** test and reference samples	Text	10	▪ **cm** - centimeters ▪ **m** - meters ▪ **in** - inches ▪ **ft** - feet	Use the same units you used for discrete samples collected from the same location.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
L	Sample ID	Primary ID to identify a sample. May be selected by the sampler or assigned by the lab.	**Required for** test and reference samples	Text	50	Free text. Must match the corresponding Sample ID used in reports or other documents.	▪ 1304017-04 ▪ C1 The laboratory-assigned sample ID is often entered in this field, but not always. For example, cleanup sites commonly use IDs like SED1 to identify the location from which the sample was collected. Check with your data coordinator if you have questions about Sample IDs. Split samples sent to different labs must be assigned the same Sample ID before entry into EIM. Do not enter the data with mismatching lab-assigned sample IDs. This includes bioassay and chemistry data from the same sample. For information on Sample IDs and field replicates, **download help for** Entering Field Replicates.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
M	Sample Field Replicate ID	Secondary ID to identify a field replicate sample. Field replicates are separate samples identically collected as close as possible to the same point in space and time as the original sample. They are stored in separate containers, each of which is identically processed and analyzed. Field replicates provide insight into field and laboratory procedure variability (and in some cases contaminant distribution).	**Required if s**ample has field replicates	Text	4	Free text / preferred format.	▪ 1, 2, 3, etc. ▪ FR1, FR2, FR3, etc. Replicate samples often have separate Sample IDs; however, they may have the same Sample ID in some instances. The Sample Field Replicate ID is necessary to differentiate them in these cases. **Download help for** Entering Field Replicates.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
N	Sample Replicate Flag	Indicates that the sample is a field replicate. Field replicates are separate samples identically collected as close as possible to the same point in space and time as the original sample. They are stored in separate containers, each of which is identically processed and analyzed. Field replicates provide insight into field and laboratory procedure variability (and in some cases contaminant distribution).	**Required if** sample has field replicates or field splits	Text	1	▪ **P** - Primary sample in a group of replicates ▪ **Y -** Yes, replicate of the primary sample ▪ **N** - No	**Download help for** Entering Field Replicates.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
O	Sample Sub ID	Secondary ID to identify a set of field split samples. Mostly used for sediment data. For split samples with the same Sample ID or with different Sample IDs.	**Required if** sample is a field split and shares a Sample ID with one or more sub-samples.	Text	4	Free text. First split is 1, second is 2, etc., no matter what the Sample ID is.	▪ 1, 2, 3, etc. ▪ SS1, SS2, SS3, etc. To create a split sample, a single field sample (often created by compositing several samples from the same field location) is split in the field into two or more sub-samples. This is done so different types of analyses can be performed (e.g., toxicity, chemistry) or the same analyses can be performed by different laboratories. Each split or sub-sample is analyzed individually.
P	Sample Composite Flag	Indicates that the sample is a composite created by combining two or more discrete samples collected spatially and/or temporally.	**Required for** test and reference samples	Text	1	▪ **Y -** Yes ▪ **N** - No	If Location "Horizontal Coordinates Represent" value is 25 (centroid of monitoring area), then composite flag should be Y. **Download help for** Entering Composite Samples.
Q	Sample Matrix	Describes the environmental medium which was measured or from which a sample was taken.	**Required for** test and reference samples	Text	14	▪ **Air/Gas** ▪ **Other Liquid** ▪ **Habitat** ▪ **Solid/Sediment** ▪ **Tissue** ▪ **Water**	▪ Solid/Sediment **Tip:** the matrix for porewater is solid/sediment.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
R	Sample Source	Describes the environmental resource which was measured or from which a sample was taken. More specific than Sample Matrix.	**Required for** test and reference samples	Text	30	See table of Sample Source valid values (in this document).	▪ Salt/Marine Sediment
S	Sample Collection Method	Method used to collect the sample.	Optional	Text	20	Must be valid EIM Method Code. Search for EIM Method valid values (online).	▪ CORE-DRV (Corer, driven) **Download help for** learning About EIM Methods. Need a method added to EIM? Contact us online or ask your Data Coordinator.
T	Sample Preparation Method	Method used to prepare the sample	Optional	Text	20	Must be valid EIM Method Code. Search for EIM Method valid values (online).	▪ SW3050B (Acid Digestion of Sediments, Sludges, and Soils, Revision 2) **Download help for** learning About EIM Methods. Need a method added to EIM? Contact us online or ask your Data Coordinator.
U	Sample Method Other	Additional field for collection, preparation, or preservation method.	Optional	Text	20	Must be valid EIM Method Code. Search for EIM Method valid values (online).	**Download help for** learning About EIM Methods. Need a method added to EIM? Contact us online or ask your Data Coordinator.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
V	**Bioassay Category**	The category of the Bioassay sample. Bioassay organisms are added to each category of sample.	**Required**	Text	10	▪ **Initial** ▪ **Test** ▪ **Positive** ▪ **Negative** ▪ **Reference** See table of Bioassay Category valid value descriptions (in this document).	**Tip:** If Bioassay Category is "Reference" or "Test," assign "Reference" or "Test," respectively, to corresponding chemistry data in the Result Template, Sample Use column. **Note:** There is no "Background" category for Bioassay. Use "Test" when corresponding chemistry data in the Result Template, Sample Use column is "B" (background).
W	**Bioassay Type**	The type of Bioassay test. Normally defined by the taxonomic name of the Bioassay organism concatenated with the test duration.	**Required**	Text	7	See table of Bioassay Type valid values (in this document).	
X	**Bioassay Start Date**	The start date of the Bioassay test.	**Required**	Date		MM/DD/YYYY **This date must match** for all test, reference, and control sample on the same run.	▪ 6/23/2024
Y	Bioassay Start Time	The start time of the Bioassay test.	**Required for** short runs (3 days or fewer), otherwise **Required if** available	Time		HH:MM:SS or HH:MM ▪ Enter 24-hour time ▪ Enter local time	▪ 19:20 (interpreted as 7:20 PM) ▪ 07:00 (interpreted as 7:00 AM) ▪ 00:07:00 (interpreted as 12:07 AM) ▪ 00:00:00 (interpreted as 12 AM midnight) Leave blank for unknown time - don't enter zero.
Z	**Bioassay End Date**	The end date of the Bioassay test.	**Required**	Date		MM/DD/YYYY	▪ 6/26/2024

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AA	Bioassay End Time	The end time of the Bioassay test.	**Required for** short runs (3 days or fewer), otherwise **Required if** available	Time		HH:MM:SS or HH:MM ▪ Enter 24-hour time ▪ Enter local time	▪ 19:20 (interpreted as 7:20 PM) ▪ 07:00 (interpreted as 7:00 AM) ▪ 00:07:00 (interpreted as 12:07 AM) ▪ 00:00:00 (interpreted as 12 AM midnight) Leave blank for unknown time - don't enter zero.
AB	**Bioassay Batch Number**	The number of the Bioassay batch. Formerly called the Analysis Group in SEDQUAL.	**Required**	Text	12		▪ 1, 2, etc. Batch numbers are typically in a sequential series (1, 2, etc.) but don't have to be. Batch number is an ID, not a count. They might be ID numbers from a lab report. It is very important to group controls, references, and samples into the correct batches. Batches represent tests, references, and controls tested in the same conditions. Typically, bioassay data will consist of more than one batch, indicating that each group of bioassays/samples was tested in a different area or at a different time. Batches are usually identifiable as each begins with a control and reference sample.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AC	Bioassay Lab Replicate ID	Additional ID for lab replicate samples with the same primary Sample ID. Bioassay lab replicates are separate analyses of sub-samples created in the lab from a single field sample. They are used to assess error associated with sample heterogeneity, sample treatment, and analytical procedures - or variability of organism responses to toxicity tests.	**Required for** lab replicates with same Sample ID	Text	4	Free text / preferred format.	▪ 1, 2, etc. Marine bioassays normally have 5 replicates and freshwater bioassays have 8 replicates per sample, test and endpoint.
AD	**Bioassay Initial Value**	The beginning value for a Bioassay, such as the number of individuals present.	**Required**	Number		Must be a positive number or zero	▪ 0 ▪ 1.1 ▪ 2.88 ▪ 100, etc.
AE	**Bioassay Final Value**	The end value for a Bioassay, such as the number of individuals present.	**Required**	Number		Must be a positive number or zero	▪ 0 ▪ 53.5 ▪ 1.75 ▪ 84, etc.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AF	**Bioassay Value Units**	Unit of measure associated with the Bioassay Initial and Final Values.	**Required**	Text	3	▪ **IND -** Individuals ▪ **LUM -** Luminosity ▪ **MG -** Milligrams ▪ **MI** - Milligrams per individual ▪ **PCT -** Percent	

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AG	**Bioassay Endpoint**	Attribute observed at the end of the Bioassay.	**Required**	Text	4	▪ **ABMO** - Normal survivorship ▪ **ABNM** - Abnormality ▪ **BABM -** Bioaccumulation, Biomass, total weight of all whole organisms ▪ **BAGT -** Bioaccumulation, Growth, Weight of Individual Organism, not exoskeleton or shell ▪ **BAMT -** Bioaccumulation, Mortality ▪ **BIOM** - Biomass, total weight of all individuals ▪ **EMRG** - Emergence ▪ **FERT** - Fertilization, successful ▪ **GROW** - Growth, weight of individual organism ▪ **INIT** - Initial Value, use only with Bioassay Category of "Initial" ▪ **LUM** - Luminosity ▪ **MORT** - Mortality ▪ **RBRL** - Reburial ▪ **REPR** - Reproduction, count of young	

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AH	**Bioassay Dilution Percent**	The percent that the Bioassay sample is diluted.	**Required**	Number		▪ **0-100** Negative Control samples use 0. Test and Reference Samples use 100 (except in rare cases for Test). Initial Value and Positive Control Samples can be whatever values are provided.	▪ 0 ▪ 30 ▪ 100
AI	Bioassay Basis	Basis on which the bioassay value was reported - either as the sample was received by the lab (wet weight) or adjusted to remove moisture (dry weight) and organic material (ash-free dry weight).	**Required if** information was reported by lab	Text	5	▪ **Dry** - Bioassay result in dry weight ▪ **Wet** - Bioassay result in wet weight ▪ **AFD** - Bioassay result in ash-free (organics free) dry weight	Some bioassay tests require more than one endpoint to be reported.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AJ	Bioassay Treatment	Additional treatment performed on the Bioassay sample.	**Required if** information was reported by lab	Text	2	▪ **N** - Normal ▪ **NS** - Non-Standard Protocol (see Bioassay Value Comment) ▪ **O** - Organic extraction ▪ **P** - Ammonia purged ▪ **RL** - Re-suspended larvae ▪ **S** - Saline extraction ▪ **UA** - Exposure to ultra-violet light and acclimated to test conditions ▪ **UV** - Exposure to ultraviolet light ▪ **W** - Deionized water extraction ▪ **X** - 100% Microtox porewater	
AK	Bioassay Data Qualifier	Standard annotations indicating deviations from the Bioassay protocol.	**Required if** test deviated from protocol (U or D in Bioassay Data Acceptability column)	Text	3	See table of Bioassay Data Qualifier valid values (in this document).	

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AL	**Bioassay Data Acceptability**	Rating of the Bioassay data quality.	**Required**	Text	3	▪ **D** - Deviation(s) from protocol occurred but is not expected to influence results. ▪ **G** - Good, acceptable data. ▪ **U** - Unusable due to deviation(s) from protocol.	
AM	Bioassay Value Comment	Comments about the Bioassay values.	Optional	Text	2000	Free text / preferred format. For tests and negative controls enter the appropriate LC50 or EC50 values.	▪ LC50 = 6.67 ug /L of Cadmium.
AN	Bioassay Positive Control Comment	Comments about the Bioassay positive control.	Optional	Text	2000	Free text / preferred format. For positive controls, enter the chemical name, the chemical formula, the largest concentration used, and the toxicant.	▪ Cadmium chloride; CdCl2*2.5H2O; 60ug/L; Cadmium.
AO	**Bioassay Method**	Procedure or method used to derive a result.	**Required**	Text	20	Must be a valid EIM Bioassay Method Code. Search for EIM Bioassay Method valid values (online).	▪ PSEP-BIO95 - Puget Sound Estuary Protocols, Laboratory Bioassays on Puget Sound Sediments, Rev. 1995 Use **UNKNOWN-BIOASSAY** for SEDQUAL and non-SEDQUAL legacy data where method is not known. Need a method added to EIM? Contact us online or ask your Data Coordinator.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AP	**Bioassay Lab Name**	The name of the lab that conducted the Bioassay.	**Required**	Text	254	Must be a valid EIM Lab Name. Search for EIM Lab valid values (online).	▪ Spheros Environmental, Port Gamble WA Some labs have new names due to buyouts or mergers. Please use the name the lab was under when your samples were analyzed. Need a lab added to EIM? Contact us online or ask your Data Coordinator.
AQ	Bioassay QA Level	Third-party expert data validation following 1989 PTI guidance.	**Required if** applicable	Text	3	▪ **QA1**: For sediment bioassay investigations conducted under SMS (Sediment Management Standards) and sediment dredging projects. ▪ **QA2**: More rigorous bioassay QA for sediment investigations used to develop sediment AET values and SMS numerical chemical criteria. See Bioassay QA Level valid values (in this document).	For bioassay data that were not validated at QA1 or QA2, leave this field blank and specify the QA Assessment Level (1-5) at the Study Level in EIM.
AR	**Bioassay Taxon Name**	Scientific or common name of the Bioassay organism.	**Required**	Text	254	Must be valid EIM Taxon Name. Search for EIM Taxa valid values (online).	▪ Daphnia pulex ▪ Hyalella Azteca Make sure the taxon name is correctly paired with the taxon in the test name for the Bioassay Type. Need a critter added to EIM? Contact us online or ask your Data Coordinator.

Col	Field Name	Description	Requirements	Type	Size	Valid Values and Conditions	Examples and Guidance
AS	Bioassay Taxon TSN	Integrated Taxon Identification System (ITIS) Taxonomic Serial Number (TSN) of the Bioassay organism.	Optional	Text	10	Must be valid EIM Taxon TSN. Search for EIM Taxa valid values (online).	▪ 83874 ▪ 94026

Valid Value Lists

Go back to Field Collector help

EIM Field Collector Valid Values

Valid Value	Description
Business	Business, Trained Staff
ConsDistrict	Conservation District
Consultant	Consultant, Professional
Ecology	WA Dept of Ecology
GovFed	Government, Misc. Federal
GovLocal	Government, Misc. Local
GovState	Government, Misc. State
GovTribal	Government, Tribal
HealthLocal	Health Dept., Local
HealthState	Health Dept., State
NGO	Non-Governmental Organization
NOAA	National Oceanic & Atmospheric Administration

Valid Value	Description
University	University
USACE	US Army Corps of Engineers
USEPA	US Environmental Protection Agency
USGS	US Geological Survey
USNPS	US National Parks Service
UtilityPrivate	Utility, Private
UtilityPublic	Utility, Public
Volunteer	Volunteer, Trained
WellDriller	Well Driller
WellOwner	Well Owner
WDFW	WA Dept of Fish & Wildlife
WDNR	WA Dept of Natural Resources

Go back to Sample Source help

EIM Sample Source Valid Values

Air and Gas

Download help for Air, Vapor, and Soil Gas Data.

Valid Value	Additional Info
Indoor Air	Download help for "Air, Vapor, and Soil Gas Data"
Outdoor Air	Download help for "Air, Vapor, and Soil Gas Data"
Soil Gas	Gaseous elements and compounds in the small spaces between particles of the earth and soil. Download help for "Air, Vapor, and Soil Gas Data"
Bulk Atmospheric Deposition	Bulk Atmospheric Deposition – Collected during dry periods and precipitation events. Download help for "Atmospheric Deposition Data"
Dry Atmospheric Deposition	Dry Atmospheric Deposition – Collected during dry periods or sheltered from precipitation. Download help for "Atmospheric Deposition Data"
Wet Atmospheric Deposition	Wet Atmospheric Deposition – Collected only during precipitation events. Download help for "Atmospheric Deposition Data"

Animal and Plant

Valid Value	Additional Info
Animal Tissue	Download help for "Fish and Shellfish Tissue Data"
Animal Tissue - Lab Exposure	Animal tissue purposefully exposed to specific contaminants in a lab setting.
Plant Tissue	
Periphyton	Mixture of algae, cyanobacteria, heterotrophic microbes, and other elements that are attached to submerged surfaces in aquatic settings. Download help for "Periphyton Chemistry"

Valid Value	Additional Info
Freshwater Taxonomy	Taxonomic information about freshwater organisms. Download help for "Benthic Invertebrate Identification and Counts."
Salt/Marine Taxonomy	Taxonomic information about salt/marine water organisms. Download help for "Benthic Invertebrate Identification and Counts."

Sediment, Porewater, and Elutriate

Note: EIM does not have rigid definitions of fresh, salt or brackish. Your specific project may define those. For example, the 2013 Sediment Management Standards, Chapter 173-204 WAC, has guidelines for defining marine, brackish and freshwater sediments and porewater.

Valid Value	Additional Info
Freshwater Sediment	
Brackish Sediment	
Salt/Marine Sediment	
Freshwater Porewater	Porewater is the water filling the spaces between grains of sediment or soil.
Brackish Porewater	Porewater is the water filling the spaces between grains of sediment or soil.
Salt/Marine Porewater	Porewater is the water filling the spaces between grains of sediment or soil.
Elutriate	Supernatant of a sediment and lab water mixture (this is not porewater).

Soil and Substrate

Valid Value	Additional Info
Rock/Gravel	
Soil	Use “Soil” for duff samples and indicate “sampled duff” in Field Collection Comment.

Stormwater

Download help for Stormwater and Combined Sewer Data.

Valid Value	Additional Info
CSO Outfall	Combined Sewer Overflow (CSO) outfall.
CSS In-Line	Combined Sewer System (CSS) in-line.
CSS Catch Basin	Combined Sewer System (CSS) catch basin.
Stormwater BMP Effluent	Stormwater, Best Management Practice (BMP) effluent.
Stormwater BMP Mid	Stormwater, Best Management Practice (BMP) treatment zone (like stormwater pond).
Stormwater BMP Influent	Stormwater, Best Management Practice (BMP) influent.
Stormwater Catch Basin	
Stormwater In-Line	Stormwater, in-line conveyance or drainage.
Stormwater Outfall	
Stormwater Sheetflow	
Precipitation	

Water

Note: EIM does not maintain rigid definitions of marine, fresh or brackish water.

Valid Value	Additional Info
Fresh/Surface Water	
Brackish Water	
Salt/Marine Water	
Groundwater	Download help for "Well Information and Data"
Pit Water	Standing water at bottom of excavation pit or trench, composed of pooled surface water runoff, groundwater seepage, or both. Download help for Entering Pit Water Data.
Precipitation	
Spring/Seep	Spring or Seep. Download help for Spring and Seep Data.

Other

Valid Value	Additional Info
Industrial Discharge	Discharge from an industrial source (permitted).
Landfill Leachate	Leachate sampled from a landfill leachate collection system. Download help for "Landfill Monitoring Data"
Sewer In-Line	Sewer system, in-line.
Source - Other	Point source or discharge that is not stormwater, industrial, or WWTP.
WWTP Effluent	Wastewater treatment plant effluent.
WWTP Influent	Wastewater treatment plant influent.

Go back to Bioassay Category help

EIM Bioassay Category Valid Values

Code	Description
Initial	**Initial Values:** Measurements taken prior to the start of a test. Enter **Bioassay Category "Initial"** and **Bioassay Endpoint "INIT."** The two most common initial measurements are Bioassay Basis DRY (dry weight) and/or AFD (ash free dry weight) for Bioassay Endpoints BIOM (Biomass, total weight of all individuals) and GROW (Growth, weight of individual organism).
Test	**Test Sample:** Field sample from the environment in question. Bioassay organisms are exposed to various dilutions of this sample to measure observable adverse impacts. Fill out the YELLOW and ORANGE color-coded fields in your template. The information is also in the Requirements column.
Positive	**Positive Control Sample:** Laboratory sample containing a known series of concentrations (100%, 50%, 25%...) of a contaminant such as Cadmium Chloride (CdCl2). Provides information on how sensitive a bioassay organism is to a known contaminant relative to previous populations of that test species. Generally used to reflect the fitness of the bioassay organism test population. Only certain fields are required for positive controls. Fill out only the YELLOW color-coded fields in your template - and conditional fields if pertinent. The information is also in the Requirements column.
Negative	**Negative Control Sample:** A clean (non-contaminated) sample collected from a known, pristine location outside the study area, with a matrix similar to the native matrix of the test organism. Provides (controls for) normal/natural effects data (e.g. mortality, growth) for the bioassay organism tested. Only certain fields are required for negative controls. Fill out only the YELLOW color-coded fields in your template - and conditional fields if pertinent. The information is also in the Requirements column.
Reference	**Reference Sample:** A clean (non-contaminated) field sample collected from a location with a matrix similar to the Test Sample. Provides non-contaminant-related effects data (e.g. mortality, growth) due to intrinsic matrix conditions which are not native to the selected bioassay organism. In sediments this would include grain size, ammonia, sulfides, TOC (≤ 5%), bacterial and fungal loading, and ionic clay-binding, etc. Fill out the YELLOW and ORANGE color-coded fields in your template. The information is also in the Requirements column.

Go back to Bioassay Type help

EIM Bioassay Type Valid Values

With typical units, endpoints, and bioassay bases.

Amphipods

Test Name	**Bioassay Type** (column W)	**Bioassay Value Units** (column AF)	**Bioassay Endpoint** (column AG)	**Bioassay Basis** (column AI)
Amphipod 10 day	AMP10	IND	MORT	Wet
	AMP10	IND	RBRL	Wet
	AMP10	IND	EMRG	Wet
Hyalella azteca 4 day	HYA04	IND	MORT	Wet
	HYA04	MI	GROW & INIT	Dry
	HYA04	MG	BIOM & INIT	Dry
Hyalella azteca 7 day	HYA07	IND	MORT	Wet
	HYA07	MI	GROW & INIT	Dry
	HYA07	MG	BIOM & INIT	Dry
Hyalella azteca 10 day	HYA10	IND	MORT	Wet
	HYA10	MI	GROW & INIT	Dry
	HYA10	MG	BIOM & INIT	Dry
Hyalella azteca 14 day	HYA14	IND	MORT	Wet
	HYA14	MI	GROW & INIT	Dry
	HYA14	MG	BIOM & INIT	Dry

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Hyalella azteca 28 day	HYA28	IND	MORT	Wet
	HYA28	MI	GROW & INIT	Dry
Hyalella azteca 28 day	HYA28	MG	BIOM & INIT	Dry

Annelid Worms

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Alitta virens 28 day	ALI28	IND	MORT	Wet
Alitta virens 45 day	ALI45	IND	BAMT	Wet
	ALI45	MG	BABM	Wet
Lumbriculus variegatus 35 day	LUM35	MG	BIOM	Wet
Neanthes 20 day	NEANT	IND	MORT	Wet
	NEANT	MI	GROW & INIT	Dry & AFD *
	NEANT	MG	BIOM & INIT	Dry & AFD *
Nephtys caecoides 45 day	NEP45	IND	BAMT	Wet
	NEP45	MG	BABM	Wet
	NEP45	MI	BAGT	Wet

* **Projects conducted under Ecology's Toxics Cleanup Program:** For Taxon Neanthes, both Dry and AFD results should be entered for GROW, BIOM and INIT endpoints.

Bivalves

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Bivalve larvae 48 hour	BIVLV	IND	ABNM	Wet
	BIVLV	IND	ABMO	Wet
Macoma nasuta 28 day	MAC28	IND	MORT	Wet
Macoma nasuta 45 day	MAC45	IND	BAMT	Wet
	MAC45	MG	BABM	Wet
	MAC45	MI	BAGT	Wet

Brachiopods

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Ceriodaphnia dubia 10 day	CDD10	IND	MORT	Wet
	CDD10	IND	REPR	Wet
Corbicula fluminea 28 day	COR28	IND	MORT	Wet
Daphnia magna 2 day	DAP02	IND	MORT	Wet

Chironomids

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Chironomus tentans 10	CHR10	IND	MORT	Wet

Test Name	**Bioassay Type** (column W)	**Bioassay Value Units** (column AF)	**Bioassay Endpoint** (column AG)	**Bioassay Basis** (column AI)
day				
	CHR10	MI	GROW & INIT	AFD
	CHR10	MG	BIOM & INIT	AFD
Chironomus tentans 20 day	CHR20	IND	MORT	Wet
	CHR20	MI	GROW & INIT	AFD
	CHR20	MG	BIOM & INIT	AFD

Fish

Test Name	**Bioassay Type** (column W)	**Bioassay Value Units** (column AF)	**Bioassay Endpoint** (column AG)	**Bioassay Basis** (column AI)
Oncorhynchus mykiss 4 day	OMYK4	IND	MORT	Wet

Echinoderms

Test Name	**Bioassay Type** (column W)	**Bioassay Value Units** (column AF)	**Bioassay Endpoint** (column AG)	**Bioassay Basis** (column AI)
Echinoderm embryo 72 hour	ECHIN	IND	ABNM	Wet
	ECHIN	IND	ABMO	Wet

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Purple Sea Urchin fertilization	URFER	PCT	FERT	Wet

Mayflies

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Hexagenia limbata 10 day	HEX10	IND	MORT	Wet

Microtox

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Microtox 5 minute	MICTX5	LUM	LUM	Wet
Microtox 15 minute	MICTX15	LUM	LUM	Wet

Terrestrial

Test Name	Bioassay Type (column W)	Bioassay Value Units (column AF)	Bioassay Endpoint (column AG)	Bioassay Basis (column AI)
Lettuce	SEED14	IND	MORT	Wet
	SEED14	MI	GROW & INIT	Dry
	SEED14	MG	BIOM & INIT	Dry
Red Earthworm	EARTH14	IND	MORT	Wet
	EARTH14	IND	ABNM	Wet

Go back to Bioassay Data Qualifier help

EIM Bioassay Data Qualifier Valid Values

Single Codes

Code	Description
AM	Ammonia present at concentrations above method recommendations
C	Deviation from protocol: sediment settling time was increased from 4 hours to 24 hours prior to addition of larvae
D	Duplicate record, explain reasoning in comments
NO	Native organisms present in sample during test
OTH	Other, see comments
P	Positive control outside control limits
R	Reference sediment does not meet performance standard
SQ	Soil Quality Issues (pH, temperature, or moisture content)
SU	Sulfides present at concentrations above method recommendations.
WQ	Water Quality Issues (pH, temperature, salinity, or dissolved oxygen)

Combo codes

Combo Code	Description
WPS	WQ, P, and SU combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen), Positive control outside control limits, and Sulfides present at concentrations above method recommendations.
WQA	WQ and AM combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen) and Ammonia present at concentrations above method recommendations.
WQN	WQ and NO combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen) and Native organisms present in sample

Combo Code	Description
	during test.
WQP	WQ and P combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen) and Positive control outside control limits.
WQS	WQ and SU combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen) and sulfides present at concentrations above method recommendations.
WSA	WQ, SU, and AM combination - Water Quality Issues (pH, temperature, salinity, or dissolved oxygen), Sulfides present at concentrations above method recommendations, and Ammonia present at concentrations above method recommendations

Go back to Bioassay QA Level help

EIM Bioassay QA Level Valid Values

Code	Description
QA1	QA1: Level of quality assurance review acceptable for most sediment bioassay investigations conducted under the Washington State Sediment Management Standards (SMS), as well as for sediment sampling and analyses conducted to determine the suitability of dredged material for unconfined, open-water disposal at a Washington State Dredged Material Management Program (DMMP) site. A QA1 review of bioassay data covers field collection and handling, completeness, data presentation and reporting elements, and evaluates the acceptability of test results for positive controls, negative controls, reference sediment, replicates, and experimental conditions (temperature, salinity, pH, dissolved oxygen). Detailed guidance on QA1 review procedures is provided in PTI (1989a) and is available from Ecology.
QA2	QA2: More rigorous level of quality assurance review appropriate for sediment bioassay data that are to be used for the development of Puget Sound Apparent Effects Threshold (AET) values. Also recommended in cases where the data may be used in litigation. This level of review ensures that the observed bioassay responses are not confounded by extraneous factors such as improper sample collection and processing, variable organism sensitivity, suboptimal experimental conditions, and erroneous endpoint determinations. QA2 review procedures are described in PTI (1989b), also available from Ecology.
Reference	Download Reference: PTI, 1989a. Puget Sound Dredged Disposal Analysis Guidance Manual: Data Quality Evaluation for Proposed Dredged Material Disposal Projects. Prepared for the Washington Department of Ecology, Olympia, WA. PTI Environmental Services, Bellevue, WA.
Reference	Download Reference: PTI, 1989b. Data validation guidance manual for selected sediment variables (OA2). Prepared for the Washington Department of Ecology, Olympia, WA. PTI Environmental Services, Bellevue, WA.

Document Revision History

Revision Date	Revision No.	Summary of Changes	Reviser(s)
9/10/2013	2013.01	Updates related to EIM data model changes.	CN
4/25/2017	2017-4-25		
8/18/2017	2017-8-18	Formatting updates for help system, added NS for non-standard protocol, Bioassay Treatment.	CN
10/2/2017	3.0	Changing versioning system for new help system. Moved to Word/PDF from Excel for accessibility reasons.	CN
4/10/2018	3.01	For Bioassay Taxon Name description, changed Latin name to scientific name to be in keeping with industry standard.	CN
06/11/2019	3.1	Removed Bioassay Type CERIO, fixed typo in Bioassay Endpoint of MO to ABMO, added Bioassay Data Qualifier valid values of C and WQA, updated URLs from fortress.wa.gov/ecy to apps.ecology.wa.gov.	KC
04/06/2020	3.2	Made some accessibility changes, fixed typo.	CN
05/03/2020	3.3	Removed dash from Study-Specific Location ID in Field Name column.	KC
06/16/2020	3.4	Renamed link for “Naming Conventions for EIM Field Locations to “How to Name and Describe Field Locations.”	CN
02/02/2021	3.5	Note about Bioassay Category of “Background” (there is none). Accessibility updates. Updated broken links.	CN
04/21/2021	3.6	Added note at top about grain size data. Added information about formatting to time fields.	KC
11/04/2021	3.7	Clarified that there should only be data for a single study in each bioassay template.	KC
02/01/2022	3.8	Added Bioassay Types MAC28 and ALI28. For bioaccumulation – not for SMS regulatory studies.	CN

Revision Date	Revision No.	Summary of Changes	Reviser(s)
01/03/2023	3.9	Added AFD to bioassay basis column for Neanthes GROW & INIT in Annelid Worms table and added footnote about TCP. Removed comment in examples and comments column for Bioassay basis (column AI). Removed valid value of "AF – Ash-free dry weight" from Bioassay Treatment (column AJ). Added Bioassay Types ALI45, LUM35, and COR28 for bioaccumulation and Bioassay Value Units G (Grams).	KC, CN
03/10/2023	3.10 (4.0)	Changed Bioassay Method example from UNKNOWN to UNKNOWN-BIOASSAY.	KC
10/18/2023	3.11 (4.1)	Modified first sentence to add links to Help Grid, additional Bioassay Help and EIM Help Center. Updated heading of "Help Fields" to "Grid – How to Fill Out Your Bioassay Template" to match the Result Template Help. Added comments to the Bioassay Batch Number (AB) field to further explain intent of the field.	KC
4/2/2025	4.2	Added Bioassay Endpoint BAGT (Bioaccumulation), corrected units for BABM Endpoints to MG (from G for ALI45 and IND for NEP and MAC45), removed Grams valid value from Bioassay Value Units, added Bioassay Type OMYK4.	CN
7/10/2025	5.0	Changes for Check Data project.	KC, CN