

## Data Element Definitions

| Data Element     | Alias/Friendly Name | Definition   |
|------------------|---------------------|--|
| FACILITY_ID      | Facility ID         | Identification information for the facility where the sample was gathered. Identifies the dataset as belonging to Portland Harbor.   |
| FACILITY_CODE    | Facility Code       | Unique code for site or area.  |
| SYS_LOC_CODE     | Location ID         | Location identifier of sample collection, soil boring, or well installation. Examples of possible sys_loc_code are MW-01, A-1, SB6, etc.   |
| LOC_NAME         | Location Name       | Sampling location name, generally populated with an alias or alternate name for SYS_LOC_CODE.  |
| SAMPLE_ID        | Sample ID           | Identification information for the sample. Generally this is a numerical sequence used as an internal database index.  |
| SYS_SAMPLE_CODE  | Sample Code         | Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. Sample IDs for field samples must be reported exactly as found on the chain of custody form, and may not be changed for subsequent tests (dilution, re-analysis, leachate, etc.) |
| SAMPLE_NAME      | Sample Name         | Additional sample identification information as necessary. Is not required to be unique (i.e., duplicates are OK).   |
| SAMPLE_DATE      | Sample Date         | Date sample was collected in the field or sample was originated in the lab. Date information must be identical with the date from the chain of custody form.   |
| SAMPLETIME       | Sample Time         | Time sample was collected in the field or sample was originated in the lab. Time information must be identical with the date from the chain of custody form.   |
| SAMPLE_TYPE_CODE | Sample Type         | Code which distinguishes between different types of samples. For example, normal field samples must be distinguished from laboratory method blank samples, etc. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.                            |

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| START_DEPTH        | Start Depth         | Beginning depth (top) of soil sample. This is an optional field for the laboratory EDD unless otherwise specified by the AECOM project manager.   |
| END_DEPTH          | End Depth           | Ending depth (bottom) of soil sample. This is an optional field for the laboratory EDD unless otherwise specified by the AECOM project manager.   |
| DEPTH_UNIT         | Depth Unit          | Unit of measurement for the sample begin and end depths. This is an optional field for the laboratory EDD unless otherwise specified by the AECOM project manager. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.  |
| MATRIX_CODE        | Matrix Code         | Code which distinguishes between different type of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g. leachates), so this field is required at both the sample and test level. |
| TASK_CODE          | Task Code           | Code used to identify the task under which the field sample was taken.  |
| PARENT_SAMPLE_CODE | Parent Sample Code  | The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample. For example, the value of this field for a duplicate sample would identify the normal sample of which this sample is a duplicate. Required in the laboratory EDD for all laboratory "clone" samples (e.g., spikes and duplicates). Must be blank for samples which have no parent (e.g., normal field samples, LCS samples, method blanks, etc.)                           |
| ANALYSIS_LOCATION  | Analysis Location   | Must be either 'FI' for field instrument or probe, 'FL' for mobile field laboratory analysis, or 'LB' for fixed_based laboratory analysis.  |
| LAB_SAMPLE_ID      | Lab Sample ID       | Laboratory LIMS sample identifier. If necessary, a field sample may have more than one LIMS lab_sample_id (maximum one per each test event).  |

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| LAB_MATRIX_CODE | Lab Matrix Code     | Code which describes the matrix as analyzed by the lab. May differ from sample_matrix_code. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.   |
| LAB_NAME_CODE   | Lab Name Code       | Unique identifier of the laboratory. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.  |
| ANALYTIC_METHOD | Analytic Method     | Method used to analyze properties of the sample.  |
| ANALYSIS_DATE   | Analysis Date       | Date and time of sample analysis in 'MM/DD/YYYY HH:MM:SS' format. May refer to either beginning or end of the analysis as required by EPA.  |
| COLUMN_NUMBER   | Column Number       | Either "1C" for first column analyses, "2C" for second column analyses, or "NA" for analyses for which neither "1C" nor "2C" is applicable. If any "2C" tests are reported, then there must be corresponding "1C" tests present also. Also, laboratories typically can report which of the two columns is to be considered "primary". This distinction is handled by the "reportable_result" field in the result table. |
| FRACTION        | Fraction            | Only applies to water samples. Differentiates between dissolved samples, particulate and total samples.   |
| TEST_TYPE       | Test Type           | Type of test in the laboratory. This field is used to distinguish between initial runs, re-extractions, reanalysis and dilutions. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.   |
| PREP_METHOD     | Preparation Method  | Laboratory sample preparation method code. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD. If preparation is part of the analytic method, use the code "METHOD".  |
| LEACHATE_METHOD | Leachate Method     | Laboratory leachate generation method name or description. The method name should be sufficient to reflect operation of the laboratory. Required for tests on leachate (TCLP, SPLP, etc.)   |

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| LEACHATE_DATE       | Leachate Date             | Date of leachate preparation in MM/DD/YYYY format. Required for tests on leachate (TCLP, SPLP, etc.)   |
| LAB_SDG             | Lab Sample Delivery Group | Sample Delivery Group (SDG) identifier. A single bottle may be assigned to only one Sample Delivery Group (SDG).   |
| PERCENT_MOISTURE    | Moisture Percentage       | Percent moisture of the sample portion used in this test; this value may vary from test to test for any sample. Report 70.1% as 70.1 not as 70.1%. Required for tests on solid matrices (soil, sediment, etc.)   |
| DILUTION_FACTOR     | Dilution Factor           | Dilution factor at which the analyte was measured effectively. Enter "1" if not diluted.   |
| TEST_ID             | Test ID                   | Numeric value.   |
| CAS_RN              | CAS Number                | Field parameter by CASRN.  |
| CHEMICAL_NAME       | Chemical Name             | Chemical Name.   |
| ORGANIC_YN          | Organic Flag              | Must be either "Y" for organic constituents or "N" for inorganic constituents.   |
| REPORT_RESULT_TEXT  | Report Result Text        | Text field, for reportable samples.  |
| REPORT_RESULT_VALUE | Report Result Value       | The result of reportable samples.  |
| REPORT_RESULT_UNIT  | Report Result Unit        | The unit on reportable samples, should match the sample unit.  |
| REPORT_RESULT_LIMIT | Report Result Limit       | Number Field, the limit for reportable values.   |
| REPORTABLE_RESULT   | Reportable Result Flag    | Must be "Yes" for results considered to be reportable, or "No" for other results. Used to distinguish most appropriate result when multiple results are generated due to dual-column tests or re-tests. Exactly one result (cas_rn) for each sample should have reportable_result = "Yes". |

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| DETECT_FLAG               | Detect Flag                | Must be either "Y" for detected analytes or "N" for non_detects.  |
| INTERPRETED_QUALIFIERS    | Interpreted Qualifiers     | Qualifier flags assigned by the validation firm.  |
| VALIDATOR_QUALIFIERS      | Validation Qualifiers      | A results qualifier based on an independent review of laboratory results and lab-assigned qualifiers by a 3rd party validator independent of the lab.   |
| LAB_QUALIFIERS            | Lab Qualifiers             | Qualifier flags assigned by the laboratory. The lab is not restricted to using the qualifiers in the reference values file; however, if a particular qualifier is used, the definition must be consistent with that in the reference values. The lab must provide an electronic key of laboratory-specific qualifiers used. Where a coeluting congener result is being reported, whether or not it is a detected result, this field will ALSO contain a "C", immediately followed by the lowest numbered congener of the coeluting set. |
| QUANTITATION_LIMIT        | Quantitation Limit         | Concentration level above which results can be quantified with 95% confidence limit. Must reflect conditions such as dilution factors and moisture content. Required for all results for which such a limit is appropriate.   |
| METHOD_DETECTION_LIMIT    | Method Detection Limit     | Use the Method Detection Limit (MDL) for Organic compounds with the following exceptions; use the EDL for single component organics analyzed by isotope dilution methods; the highest EDL in the homolog for PCB homologs; the EDL of a single component for Alkyl PAH homologs; and the instrument detection limit (IDL) for Inorganic compounds, per the contract. It must reflect such factors as dilution factors and moisture content.   |
| REPORTING_DETECTION_LIMIT | Reportable Detection Limit | Use the value of the quantitation_limit except in the following cases: use the EDL for single component organics analyzed by isotope dilution methods; the highest EDL in the homolog for PCB homologs; the EDL of a single component for Alkyl PAH homologs; and the result_value for radionuclides. Reflects conditions such as dilution factors and moisture content. Required for all results for which such a limit is appropriate. Must be identical to the non-detect value in the hard-copy report.                             |

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| DETECTION_LIMIT_UNIT | Detection Limit Unit | Units of measurement for the detection limit(s). Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.   |
| RESULT_TEXT          | Text Result          | Text formatted analytic result reported at an appropriate number of significant digits. Must be identical with values presented in the hard copy. Leave blank for non-detects. Coeluting congeners must all be reported with the same value. |
| RESULT_NUMERIC       | Numeric Result       | Numeric format analytic result reported at an appropriate number of significant digits. Must be identical with values presented in the hard copy. Leave blank for non-detects. Coeluting congeners must all be reported with the same value. |
| RESULT_UNIT          | Result Unit          | Units of measurement for the result unit. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD.  |
| RESULT_TYPE_CODE     | Result Type          | Must be either "TRG" for a target or regular result, "TIC" for tentatively identified compounds, "SUR" for surrogates, "IS" for internal standards, or "SC" for spiked compounds.  |
| X_COORD              | X Coordinate         | X coordinate of the position of interest.  |
| Y_COORD              | Y Coordinate         | Y coordinate of the position of interest.  |
| COORD_TYPE_CODE      | Coordinate Type      | Location coordinate / projection type (i.e. NAD83, etc.)   |
| SURF_ELEV            | Surface Elevation    | Measured elevation recorded relative to a standard published datum.  |
| ELEV_UNIT            | Elevation Unit       | Unit of Measure for surface elevation.   |
| STREAM_MILE          | River Mile           | Approximate measure of distance in miles along a river from its mouth.   |

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| SAMPLE_METHOD | Sample Method       | Sampling method. Limited to values as found in the Reference values file, if additions must be made, they need to be approved by AECOM before submitting an EDD. |
| BASIS         | Basis               | Must be either "Wet" for wet weight basis reporting, "Dry" for dry weight basis reporting, or "NA" for tests for which this distinction is not applicable.       |
| VALIDATED_YN  | Validated Sample    | A (Y/N) confirmation that the sample has been validated to be accurate independent of the lab.   |
| REMARK        | Remark              | Result specific comments.  |