Government of Newfoundland and Labrador

Office of the Chief Information Officer

Environmental Data Management System (EDMS)

XML Data Format Specification for Electronic File Transfer

Owner	Department of Municipal Affairs and Environment
Issuing Branch	Office of the Chief Information Officer - Solution Delivery
Target Audience	Industry Officers and Staff
Effective Date	January 22, 2019
Document Version	EDMS Version 1.4

Table of Contents

1.0 Purpose

This document provides technical guidance on the structure of data to be uploaded to the Government of Newfoundland and Labrador Environmental Data Management System (EDMS). It describes:

- The structure of the XML document; and
- The EDMS code mappings required to translate data into XML for input into EDMS.

2.0 Acronyms and Glossary

The following table includes definitions for any unique symbols or notations that are used in the document.

Term	Definition
EDMS	Environmental Data Management System
XML	Extensible Markup Language

3.0 Revision History

The following table includes all revisions made to the original specification document.

Version	Revision Description
1.1	Removed interval attribute from XML specification. Added company_name attribute to XML specification. Added data_type attribute to XML specification. Parameter FTFLOW – removed 'This Month' from description Added unit of measures 'UNITLESS', 'CST' Added Parameter Code 'KINVIS' Added Parameter Coe 'PAPER' Added Parameter Code 'DENSITY15' Added Parameter Code 'NA2OKO' Added Unit of Measure ME/L
1.2	Added reference_num attribute to XML specification
1.3	Updated sections 6.4 and 6.5 with additional codes
1.4	Added data_subtype attribute to XML specification Modified erroneous comment attribute in section 5.3 Revised text

4.0 XML Parts and Reserved Characters

There are three main hierarchical elements to the XML coding: “submission”, “sample” and “result”. The “submission” element is first and contains attributes that describe ‘Who’ submitted the data; the “sample” element is second and contains attributes that describe ‘When’ and ‘Where’ the sample was taken; and finally, the “result” element is the third hierarchical element and contains attributes that describe ‘What’ was recorded for each parameter.

The “submission” element contains four mandatory attributes:

- edms_company_code
- company_name
- edms_ws_code
- ws_name

Detailed information on each attribute is contained in section 5.1.

The “sample” element contains three mandatory attributes and one optional attribute:

- date_time
- edms_loc_code
- loc_name
- reference_num (optional)

Detailed information on each attribute is contained in section 5.2.

The “result” element contains five mandatory attributes and three optional attributes:

- edms_param_code
- param_name
- unit_abbrev
- data_type
- data_subtype (optional)
- value
- detect_limit (optional)
- comment (optional)

Detailed information on each attribute is contained in section 5.3.

Generically the XML file for submission intro EDMS will look like:

```
<submission edms_company_code="" company_name="" edms_ws_code="" ws_name="">
  <sample date_time=""edms_loc_code="" loc_name="" reference_num="">
    <result edms_param_code="" param_name="" unit_abbrev="" data_type="" data_subtype="" value="" detect_limit="" comment="" />
  </sample>
</submission>
```

where: elements are red;

attributes are green; and

fields / values are contained within the blue quotation marks.

Each element line within the XML file is bracketed a set by open and closed angle brackets (< >) while the field / value associated with each attribute is contained in a set of double quotes (“ ”). The end of each “result” element line is delineated by a forward slash (/). For each “submission” and “sample”, the end delineation is </submission> and </sample> respectively as a separate entry.

Important Note: XML reserves certain characters for markup. These characters should not be used in field values (e.g. between quotations). In all cases, these characters must be replaced with the XML replacement entity provided below:

Original Character	Character Description	XML Replacement Entity
<	Open angle bracket	**<**
>	Closed angle bracket	**>**
“	Double Quote	**"**
&	Ampersand	**&**
‘	Single Quote	**'**

For example if a value reported by a laboratory is <0.05, the **incorrect** entry in XML is:

```
<submission edms_company_code="" company_name=”” edms_ws_code="" ws_name="">
    <sample date_time="" edms_loc_code="" loc_name="" reference_num=””>
        <result edms_param_code=" " param_name="" unit_abbrev="" data_type="" value="<0.05" detect_limit="" />
    </sample>
</submission>
```

The **correct** entry is:

```
<submission edms_company_code="" company_name=”” edms_ws_code="" ws_name="">
    <sample date_time="" edms_loc_code="" loc_name="" reference_num=””>
        <result edms_param_code=" " param_name="" unit_abbrev="" data_type="" value="&lt;0.05" detect_limit="" />
    </sample>
</submission>
```

Examples of XML coding can be found in Section 7.0.

5.0 XML Attribute Definition

5.1 *Submission Level Attributes*

XML Attribute	Definition	Field Type	Max Field Size	Required
edms_company_code	Unique **10 digit** company code provided by the Department of Municipal Affairs and Environment.	String	10	Yes
company_name	Name of the company	String	50	Yes
edms_ws_code	Unique **5 digit** work site code provided by the Department of Municipal Affairs and Environment.	String	5	Yes
ws_name	Name of the work site	String	80	Yes

Note: all string comparisons are case insensitive ignoring leading and trailing spaces.

5.2 *Sample Level Attributes*

XML Attribute	Definition	Field Type	Max Field Size	Required
date_time	Date and time of sampling. Note: Time is only required when sampling duration is less than or equal to hourly intervals or specific timeframes need to be logged.	String Format: YYYY-MM-DD HH:MM:SS for sub-daily sampling or YYY-MM-DD for daily sampling e.g 2016-09-21 21:20:13 for sub-daily sampling or 2018-10-15 for daily sampling	19	Yes
edms_loc_code	Unique **5 digit** location code for where the sample was taken. Code provided by the Department of Municipal Affairs and Environment	String	5	Yes
loc_name	Name of the location	String	80	Yes
reference_num	Reference number for sample	String	20	Optional

Note: all string comparisons are case insensitive ignoring leading and trailing spaces.

5.3 *Result Level Attributes*

XML Attribute	Definition	Field Type	Max Field Size	Required
edms_param_code	Unique code for the parameter. See complete list of parameters codes in Section 6.1.	String	20	Yes
param_name	The parameter name. See Section 6.1 for list of parameter names.	String	80	Yes
unit_abbrev	Unit of Measure abbreviation. See complete list of abbreviations is Section 6.2.	String	10	Yes
data_type	Unique data type of the result data. See complete list of data types in Section 6.3	String	20	Yes
data_subtype	Used when data_type = FUEL. See complete list of data subtypes in Section 6.4.	String	20	Optional
value	Value of the analytical test result.	String	20	Yes
detect_limit	The reported detection limit.	String	10	Optional
comment	Result comment	String	2000	Optional

Note: all string comparisons are case insensitive ignoring leading and trailing spaces.

6.0 Codes

The following tables present a complete list of codes that are likely to appear in the company profile file (CPF) or that are required for XML mapping. The codes may be revised from time to time. **It is important to use only those codes referred to in your company profile file.**

- Section 6.1: Parameter Codes
- Section 6.2: Unit of Measure Codes
- Section 6.3: Data Types
- Section 6.4: Data Subtypes

Submission level codes for: edms_company_code;
company_name;
edms_ws_code; and
ws_name

are unique for any given facility and are provided by the Department of Municipal Affairs and Environment.

6.1 *Parameter Codes*

The following table shows a list of parameters and the associated EDMS parameter code.

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
ABSORBHEAT	Absorbed Heat Duty
ACDT	Acidity, Total
ACLETDA	LT50 Daphnia Magna
ACLETR	LT50 Rainbow Trout
AGAE	Acid Extractable Silver
AGFT	Dissolved Silver
AGLEACH	Leachable Silver
AGUT	Total Silver
AL2O3	Aluminum Oxide
ALAE	Acid Extractable Aluminum
ALFT	Dissolved Aluminum
ALKB	Bicarbonate ($CaCO_3$)
ALKC	Carbonate ($CaCO_3$)
ALKT	Total Alkalinity
ALLEACH	Leachable Aluminum
ALUT	Total Aluminum
ANSUM	Anion Sum
APIGRAV	API Gravity
ASAE	Acid Extractable Arsenic
ASFT	Dissolved Arsenic
ASH	Total Ash
ASLEACH	Leachable Arsenic
ASPHALT	Total Asphaltenes
ASUT	Total Arsenic
B2008H	Styrene
B2BENZ	Benzene
B2EBNZ	Ethylbenzene
B2MPXY	m+p-Xylene
B2OXYL	o-Xylene
B2TOLU	Toluene
B2XYLE	Xylene (Total)
BAAE	Acid Extractable Barium
BAFT	Dissolved Barium
BALEACH	Leachable Barium
BATCH	# of Batches
BAUT	Total Barium
BBAE	Acid Extractable Boron

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
BBFT	Dissolved Boron
BBLEACH	Leachable Boron
BBUT	Total Boron
BEAE	Acid Extractable Beryllium
BEFT	Dissolved Beryllium
BELEACH	Leachable Beryllium
BENT	Bentonite
BEUT	Total Beryllium
BIAE	Acid Extractable Bismuth
BIFT	Dissolved Bismuth
BIUT	Total Bismuth
BOD5	Biochemical Oxygen Demand
BRIDUR	Bromide
BUTANE	Butane Produced
CAAE	Acid Extractable Calcium
CACL2	Calcium Chloride
CAFT	Dissolved Calcium
CALEACH	Leachable Calcium
CAO	Calcium Oxide
CARBON	Fixed Carbon
CATSUM	Cation Sum
CAUT	Total Calcium
CBOD5	Carbonaceous Biochemical Oxygen Demand
CCNAUR	Cyanide (Total Available, unfiltered)
CCNFUR	Cyanide (Free, unfiltered)
CCNSAD	Cyanide, Strong Acid Dissociable
CCNWAD	Cyanide, Weak Acid Dissociable
CDAE	Acid Extractable Cadmium
CDFT	Dissolved Cadmium
CDLEACH	Leachable Cadmium
CDUT	Total Cadmium
CLFRS	Chlorine, Free Residue
CLIDUR	Chloride
CLTRS	Chlorine, Total Residue
CNDVTY	Specific Conductance
CNOFR	Cyanates, filtered reactive
CO	Carbon Monoxide
CO2	Carbon Dioxide
COAE	Acid Extractable Cobalt
COD	Chemical Oxygen Demand

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
COFT	Dissolved Cobalt
COKEC	Coke Combusted
COKED	Coke Delivered
COLEACH	Leachable Cobalt
COLTR	Color
CONCEN	Concentrate Production
COUT	Total Cobalt
CRAE	Acid Extractable Chromium
CRFT	Dissolved Chromium
CRIIICALC	Chromium (III) Calculated
CRLEACH	Leachable Chromium
CRUDE	Crude Processed
CRUT	Total Chromium
CRVILEACH	Leachable Chromium (VI)
CRVIUT	Total Hexavalent Chromium
CUAE	Acid Extractable Copper
CUFT	Dissolved Copper
CULEACH	Leachable Copper
CUUT	Total Copper
DENSITY15	Density 15^{o}C
DIESEL	Diesel Produced
DISDAY	Discharge Days This Month
DISDUR	Discharge Duration
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
ECIMFB	Escherichia Coli MFB
ECMF	Escherichia Coli MF
ECMPN	Escherichia Coli MPN
EFFIC	Efficiency
FCMF	Fecal Coliform MF
FCMPN	Fecal Coliform MPN
FE2FT	Iron (ferrous), filtered total
FE2UT	Iron (ferrous), unfiltered total
FE3FT	Iron (ferric), filtered total
FE3UT	Iron (ferric), unfiltered total
FEAE	Acid Extractable Iron
FEFT	Dissolved Iron
FELEACH	Leachable Iron
FEUT	Total Iron
FFIDUR	Fluoride

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
FLASH	Flash Point
FTFLOW	Total Flow
FUELGAS	Fuel Gas Combusted
FWPH	pH, field measurement
FWTEMP	Temperature, field measurement
GAC	Gross Alpha Count
GASOIL	Gas Oil Processed
GASOLINE	Gasoline Produced
GBC	Gross Beta Count
GBG	Gross Beta Gamma Activity
H2S	Hydrogen Sulphide
HALO	Total Organic Halogen
HARDFT	Dissolved Hardness
HARDT	Hardness ($CaCO_3$)
HEAT	Heat Content
HGAE	Acid Extractable Mercury
HGFT	Dissolved Mercury
HGLEACH	Leachable Mercury
HGUT	Total Mercury
HHUT	Total Hydrogen
HOGFUEL	Hog Fuel
HVGO	HVGO Produced
HYDROX	Hydroxide
INCTEMP	Incinerator Temperature
IONBAL	Ion Balance
ISOMAX	Isomax Fractionation Bottoms Produced
JETA1	Jet A1 Produced
K2O	Potassium Oxide
KINVIS	Kinematic Viscosity
KKAE	Acid Extractable Potassium
KKFT	Dissolved Potassium
KKLEACH	Leachable Potassium
KKUT	Total Potassium
KW	Kilowatt
KWH	Kilowatt-Hours
LI20C	Langelier Index @ 20^{o}C
LI4C	Langelier Index @ 4^{o}C
LIAE	Acid Extractable Lithium
LIFT	Dissolved Lithium

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
LILEACH	Leachable Lithium
LIUT	Total Lithium
LOI	Loss of Ignition
MGAE	Acid Extractable Magnesium
MGFT	Dissolved Magnesium
MGLEACH	Leachable Magnesium
MGO	Magnesium Oxide
MGUT	Total Magnesium
MNAE	Acid Extractable Manganese
MNFT	Dissolved Manganese
MNLEACH	Leachable Manganese
MNUT	Total Manganese
MOAE	Acid Extractable Molybdenum
MOFT	Dissolved Molybdenum
MOIST	Total Moisture
MOLEACH	Leachable Molybdenum
MOUT	Total Molybdenum
MTBE	Methyl-t-butyl-ether
MW	Megawatt
MWH	Megawatt-Hours
NA2O	Sodium Oxide
NA2OK2O	Sodium Oxide + Potassium Oxide
NAAE	Acid Extractable Sodium
NAFT	Dissolved Sodium
NAPHTHA	Naphtha Produced
NAPLSR	LSR Naphtha Produced
NAUT	Total Sodium
NH3URF	Ammonia (Un-ionized) Unfiltered, Reactive, Field pH @ 15C
NIAE	Acid Extractable Nickel
NIFT	Dissolved Nickel
NILEACH	Leachable Nickel
NIUT	Total Nickel
NNH3FR	Ammonia (Un-ionized) Filtered, Reactive
NNH3UR	Ammonia (Un-ionized) Unfiltered, Reactive
NNHTFR	Ammonium + Ammonia Total Filtered, Reactive
NNHTUR	Ammonium + Ammonia Total Unfiltered, Reactive
NNO2FR	Nitrite, filtered, reactive
NNO2NNO3FT	Nitrate plus nitrite, filtered
NNO2NNO3UT	Total Nitrate + Nitrite
NNO2UT	Total Nitrite

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
NNO3FR	Nitrate, filtered, reactive
NNO3UT	Total Nitrate
NNTKUT	Total Kjeldahl nitrogen, unfiltered, total
NNUT	Total Nitrogen
NO2	Nitrogen Dioxide
NONYLPH	Nonylphenol
NONYLPHE	Nonylphenol Ethoxylate
NOx	Oxides of Nitrogen
O2	Oxygen
O3	Ozone
OIL2C	Fuel Oil #2 Combusted
OIL2D	Fuel Oil #2 Delivered
OIL6C	Fuel Oil #6 Combusted
OIL6D	Fuel Oil #6 Delivered
OIL6P	Fuel Oil #6 Produced
OILRFOC	RFO Combusted
OILUC	Used Oil Combusted
OILUD	Used Oil Delivered
OPAC	Opacity
OPRDAY	Operating Days this month
OPRHOUR	Operating Hours this month
ORE	Ore Production
ORTPO4	Orthophosphate
P1PCBT	Total Polychlorinated Biphenyls
PAPER	Paper Production
PBAE	Acid Extractable Lead
PBFT	Dissolved Lead
PBLEACH	Leachable Lead
PBUT	Total Lead
PELLET	Pellet Production
PELTYPE	Type of Pellet
PH	pH
PH15C	pH at 15^{o}C
PHMAX	Maximum pH
PHMIN	Minimum pH
PHNOL	Phenolics
PM10	PM 10
PM25	PM 2.5
PMT	Total Particulate Matter
PN1MNA	1-Methylnaphthalene

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
PN2MNA	2-Methylnaphthalene
PNACNE	Acenaphthene
PNACNY	Acenaphthylene
PNANTH	Anthracene
PNBAA	Benzo(a)anthracene
PNBAP	Benzo(a)pyrene
PNBBFA	Benzo(b)fluoranthene
PNBJF	Benzo(j)fluoranthene
PNBKF	Benzo(k)fluoranthene
PNCHRY	Chrysene
PNDAHA	Dibenz(a,h)anthracene
PNFLAN	Fluoranthene
PNFLUO	Fluorene
PNGHIP	Benzo(g,h,i)perylene
PNINP	Indeno(1,2,3-cd)pyrene
PNNAPH	Naphthalene
PNPERY	Perylene
PNPHEN	Phenanthrene
PNPYR	Pyrene
POUR	Pour Point
PPAE	Acid Extractable Phosphorus
PPELEM	Elemental Phosphorus
PPFT	Dissolved Phosphorus
PPO4UT	Phosphates (total)
PPO4UTP2O5	Total Phosphates as P_2O_5
PPUT	Total Phosphorus
PROPANE	Propane Produced
RA226	Radium 226
RA228	Radium 228
RBAE	Acid Extractable Rubidium
RBFT	Dissolved Rubidium
RBUT	Total Rubidium
SALINITY	Salinity
SATPH20C	Saturation pH @ 20^{o}C
SATPH4C	Saturation pH @ 4^{o}C
SBAE	Acid Extractable Antimony
SBFT	Dissolved Antimony
SBLEACH	Leachable Antimony
SBUT	Total Antimony
SCNFR	Thiocyanates, filtered reactive

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
SEAE	Acid Extractable Selenium
SEDIMENT	Total Sediment
SEFT	Dissolved Selenium
SELEACH	Leachable Selenium
SEUT	Total Selenium
SIAE	Acid Extractable Silicon
SIFT	Dissolved Silicon
SIO2	Silica
SIO2FT	Dissolved Silica
SIO2UR	Reactive Silica
SIUT	Total Silicon
SLOPS	Slops / Reduced Crude Produced
SNAE	Acid Extractable Tin
SNFT	Dissolved Tin
SNLEACH	Leachable Tin
SNUT	Total Tin
SO2	Sulphur Dioxide
SO2INC	Incinerator SO_2
SO2MIS	Miscellaneous SO_2
SO2RFO	RFO SO_2
SPECGRAV	Specific Gravity
SPENT	Spent Caustic
SRAE	Acid Extractable Strontium
SRFT	Dissolved Strontium
SRLEACH	Leachable Strontium
SRUT	Total Strontium
SSAE	Acid Extractable Sulphur
SSFT	Dissolved Total Sulphur
SSIDUR	Sulphide
SSITUR	Sulphite, unfiltered, reactive
SSO4UR	Sulphate
SSUT	Total Sulphur
STEAMH	Total Steam from Hogged
STEAMO	Total Steam from Oil
SULREC	Sulphur Recovered
TCMF	Total Coliform MF
TCMPN	Total Coliform MPN
TCOD	Total Chemical Oxygen Demand
TDS	Total Dissolved Solids (Calculated)
TDSMEAS	Total Dissolved Solids (Measured)

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
TEAE	Acid Extractable Tellurium
TEFT	Dissolved Tellurium
TEUT	Tellurium, Total
THIOST	Thiosalts
TIAE	Acid Extractable Titanium
TIFT	Dissolved Titanium
TIO2	Titanium Dioxide
TIUT	Total Titanium
TKN	Total Kjeldahl Nitrogen
TLAE	Acid Extractable Thallium
TLFT	Dissolved Thallium
TLLEACH	Leachable Thallium
TLUT	Total Thallium
TOC	Total Organic Carbon
TOG	Total Oil and Grease
TPHPIRI	Total Petroleum Hydrocarbons (Atlantic PIRI)
TPHPIRIC6C10LBTEX	C6-C10 (less BTEX)
TPHPIRIGTC10C16	>C10-C16 Hydrocarbons
TPHPIRIGTC16C21	>C16-C21 Hydrocarbons
TPHPIRIGTC21LTC32	>C21-< C32 Hydrocarbons
TSS	Total Suspended Solids
TURB	Turbidity
UUAE	Acid Extractable Uranium
UUFT	Dissolved Uranium
UULEACH	Leachable Uranium
UUUT	Total Uranium
VLEACH	Leachable Vanadium
VOCS	Total Volatile Organic Compounds
VOLATILE	Total Volatiles
VOLDIS	Discharged Volume
VSS	Volatile Suspended Solids
VVAE	Acid Extractable Vanadium
VVFT	Dissolved Vanadium
VVUT	Total Vanadium
WATER	Total Water
WWEFF	Waste Water Effluent
WWUT	Tungsten, unfiltered total
X1111T	1,1,1-Trichloroethane
X11122	1,1,2,2-Tetrachloroethane
X1112T	1,1,2-Trichloroethane

Parameter Code XML Attribute (edms_param_code)	Parameter Name XML Attribute (param_name)
X111CE	1,1-Dichloroethane
X111CY	1,1-Dichloroethylene
X112CE	1,2-Dichloroethane
X112CP	1,2-Dichloropropane
X113DP	cis-1,3-Dichloropropene
X113DR	trans-1,3-Dichloropropene
X1BDCM	Bromodichloromethane
X1BMET	Bromomethane
X1BROM	Bromoform
X1C12D	cis-1,2-Dichloroethylene
X1CDBM	Chlorodibromomethane
X1CHLE	Chloroethane
X1CHLM	Chloromethane
X1CHLO	Chloroform
X1CTET	Carbon Tetrachloride
X1DCLM	Methylene Chloride (Dichloromethane)
X1T12D	trans-1,2-Dichloroethylene
X1TCFM	Trichlorofluoromethane
X1TETR	Tetrachloroethylene
X1TRIC	Trichloroethylene
X1VCL	Vinyl Chloride
X212CB	1,2-Dichlorobenzene
X213CB	1,3-Dichlorobenzene
X214CB	1,4-Dichlorobenzene
X2CBEN	Chlorobenzene
X2EDB	Ethylene Dibromide
X2TTHM	Total Trihalomethanes
ZNAE	Acid Extractable Zinc
ZNFT	Dissolved Zinc
ZNLEACH	Leachable Zinc
ZNUT	Total Zinc
ZRUT	Zirconium, unfiltered total

6.2 *Unit of Measure Codes*

The following table shows a list of unit of measures. It is important that you report with the proper unit of measure as outlined in your company profile file.

Unit of Measure Code XML Attribute (unit_abbrev)	Name
%	Percent
%S	Percent Sulphur
%VOL	Percent Volume
1000LB/HR	Thousand Pounds per Hour
API	API Gravity
BBLS	Barrels
BBLS/DAY	Barrels per Day
BDT	Bone Dry Tonnes
BQ/L	Becquerels Per Litre
BTU/BBL	BTU per Barrel
BTU/LB	BTU per Pound
BTU/USG	BTU per US Gallon
C	Celsius
CELSIUS	Celsius
CFU/ML	Colony Forming Units Per Millilitre
CST	Centistoke
F	Fahrenheit
G	Grams
G/L	Grams per Litre
GAL/DAY	Imperial Gallons per day
GALLONS	Imperial Gallons
HOUR	Hours
K	Kelvin
KG	Kilograms
KG/L	Kilograms per Litre
KG/M3	Kilograms per Cubic Metre
KJ/KG	Kilojoules per Kilogram
KL	Kilolitres
KT	Kilotonnes
KW	Kilowatts
KWH	Kilowatt - Hour
L	Litres
LBS/DAY	Pounds Per Day
M3	Cubic Metres
M3/DAY	Cubic Metres per Day
ME/L	Milliequivalents per Litre
MG	Milligrams
MG/KG	Milligrams per Kilogram

Unit of Measure Code XML Attribute (unit_abbrev)	Name
MG/L	Milligrams per Litre
MJ/KG	Megajoules per Kilogram
MMBTU	Million BTU
MMBTU/HR	Million BTU per Hour
MMSCF	Million Standard Cubic Feet
MPN/ML	Most Probable Number per Millilitre
MS/CM	Millisiemens per Centimetre
MW	Megawatts
MWH	Megawatt - Hour
N/A	Not Applicable
NTU	Nephelometric Turbidity Unit
PASS/FAIL	Pass or Fail
PH UNITS	pH Units
PPB	Parts per Billion
PPM	Parts per Million
PPT	Parts per Trillion
T/DAY	Tonnes per Day
TCU	True Colour Unit
TONNES	Metric Tonne (Megagram)
UG	Micrograms
UG/G	Micrograms per Gram
UG/L	Micrograms per Litre
UG/M3	Micrograms per Cubic Metre
UNITLESS	Unit Less
US/CM	Microsiemens per Centimetre

6.3 *Data Types*

The following table shows a list of data types that describe the data. It is important that you report with the proper data type as outlined below.

Data Type XML Attribute (data_type)	Description
AMBIENT	Continuous Ambient Monitoring
COM	Continuous Opacity Monitoring
CEM	Continuous Emissions Monitoring
EFFLUENT	Effluent
WASTE	Waste
FUEL	Fuel
PRODUCTION	Production

6.4 *Data Subtypes*

The following table shows a list of data subtypes that describe the Fuel data type. It is important that you report with the proper data subtype as outlined below.

Data Subtype XML Attribute (data_subtype)	Description
#2	Fuels including diesel, heating oil, jet fuel
#6	Fuels including Bunker C
USED	Used oil
HOG	Hogged fuel including bark, wood chips
SOLID	Solid fuels including coke breeze, petroleum coke, anthracite
GAS	Gaseous fuels including methane, process gas, sour gas, propane

7.0 Examples of XML Coding

7.1 *Example 1: Daily Sampling*

```
<submission edms_company_code="0009880012" company_name=”Acme Inc” edms_ws_code="04120" ws_name="TEST MINE INC" >

    <sample date_time="2016-09-26" edms_loc_code="02122" loc_name="TAILINGS POND" reference_num=””>

        <result edms_param_code="ANSUM" param_name="Anion Sum" unit_abbrev="ME/L" data_type="EFFLUENT" value="9.09" detect_limit="" comment="" />

        <result edms_param_code="TDS" param_name="Calculated TDS" unit_abbrev="MG/L" data_type="EFFLUENT " value="600" detect_limit="1.0" comment="" />

        <result edms_param_code="PH" param_name="pH" unit_abbrev="pH Units" data_type="EFFLUENT " value="3.2" detect_limit="&amp;lt;0.5" comment="very acidic" />

    </sample>

    <sample date_time="2016-11-15" edms_loc_code="02815" loc_name="BOILER #26">

        <result edms_param_code="OIL6C” param_name="Fuel Oil # 6 Combusted" unit_abbrev="Tonnes" data_type="FUEL" data_subtype=”#6” value="12345" />

    </sample>

</submission>
```

7.2 *Example 2: Hourly Sampling*

```
<submission edms_company_code="0009770511" company_name=”Acme Inc” edms_ws_code="01110" ws_name="TEST PLANT" >
    <sample date_time="2016-09-01 00:00:00" edms_loc_code="05321" loc_name="UNIT 18">
        <result edms_param_code="CO2" param_name="Carbon Dioxide" unit_abbrev="%" data_type="CEM" value="10.6" />
        <result edms_param_code="CO" param_name="Carbon Monoxide" unit_abbrev="PPM" data_type="CEM" value="0.0" />
        <result edms_param_code="O2" param_name="Oxygen" unit_abbrev="%" data_type="CEM" value="6.9" />
        <result edms_param_code="NOx" param_name=" Oxides of Nitrogen" unit_abbrev="PPM" data_type="CEM" value="116.9" />
        <result edms_param_code="SO2" param_name="Sulphur Dioxide" unit_abbrev="PPM" data_type="CEM” value="210.2" />
    </sample>
    <sample date_time="2016-09-01 01:00:00" edms_loc_code="05351" loc_name="UNIT 23">
        <result edms_param_code="CO2" param_name="Carbon Dioxide" unit_abbrev="%" data_type="CEM" value="12.3"/>
        <result edms_param_code="CO" param_name="Carbon Monoxide" unit_abbrev="PPM" data_type="CEM" value="5.1" />
        <result edms_param_code="O2" param_name="Oxygen" unit_abbrev="%" data_type="CEM" value="8.5" />
        <result edms_param_code="NOx" param_name=" Oxides of Nitrogen" unit_abbrev="PPM" data_type= CEM " value="105.6"/>
        <result edms_param_code="SO2" param_name="Sulphur Dioxide" unit_abbrev="PPM" data_type="CEM" value="87.5" />
    </sample>
    <sample date_time="2016-09-01 02:00:00" edms_loc_code="05381" loc_name="UNIT 35>
        <result edms_param_code="CO2" param_name="Carbon Dioxide" unit_abbrev="%" data_type="CEM" value="2.2" />
        <result edms_param_code="CO" param_name="Carbon Monoxide" unit_abbrev="PPM" data_type="CEM" value="18" />
        <result edms_param_code="O2" param_name="Oxygen" unit_abbrev="%" data_type="CEM" value="11.1" />
        <result edms_param_code="NOx" param_name=" Oxides of Nitrogen" unit_abbrev="PPM" data_type="CEM" value="859" />
        <result edms_param_code="SO2" param_name="Sulphur Dioxide" unit_abbrev="PPM" data_type="CEM" value="554.3" />
    </sample>
</submission>
```