



COLORADO WATER QUALITY MONITORING COUNCIL
COLORADO DATA SHARING NETWORK

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CDSN Universal Minimum Data Elements Physical/Chemical Data | 2015

CDSN AWQMS divides elements into 4 main categories which are uploaded separately, using specific templates:

1. Organizational elements
2. Project elements
3. Monitoring Location elements (what some folks call "metadata")
4. Activities/Results for the type of sampling such as Physical/Chemical Results

Once 1-3 are uploaded, they do not need to be uploaded again unless changes are being made or unless there are additional Projects and/or Monitoring Locations to add to the system.

1. Organizational elements

-- see CDSN New Organization form (download at

http://www.coloradowaterdata.org/background_2013/fin/new_data_provider_materials/New_Org_Form_CDSN_Au_g_2013.docx). CDSN uploads the information on this form for you, when you order your CDSN AWQMS-WQX Org ID.

This is the "Universal" CDSN Organization metadata included in the New Organization form:

Organizational Element	Notes
Organization ID	
Organization Name	For Reg85 WQCD requires including your Watershed Group and CO Discharge Number
Organization Description	
Mailing Address	
Physical Address (if different)	
Phone	Can be office, mobile or both (specify type)
Fax	Optional
Organization Web Site	
Primary Contact Name	

Primary Contact Email	
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2. Project elements

-- see CDSN Project template (download at http://www.coloradowaterdata.org/background_2013/fin/new_data_provider_materials/Projects_Form.xlsx). CDSN or you can upload this form into AWQMS. It has all of the info required by both CDSN and CDPHE WQCD (2013-2015). Your SAP or QAPP is attached and uploaded into AWQMS.

This is the "Universal" CDSN Project metadata included in yellow Project tab of the CDSN Project template:

Project Element	Notes
Project ID	
Project Name	
Project Description	
QAPP (SAP) Approved Indicator	For Reg85 say "Yes". If you have a NPS SAP or QAPP say "Yes".
QAPP Approval Agency Name	Required for Reg85 and if the QAPP Approved Indicator is "Yes"; Typically use "USEPA" or "CDPHE WQCD"
Project Attachment File Name	For Reg85 Attach SAP, put full file name, ends with .zip
Project Attachment File Type	Required by AWQMS if file name specified, must be .zip

If you are participating in Colorado's Regulation 85 ("Reg85"), one of your project(s) must be the following:

Project Element	Notes
Project ID	WQCD_REG85
Project Name	WQCD_REG85
Project Description	CDSN Project Name for all data to be submitted to Colorado Water Quality Control Division (WQCD) to fulfill Regulation 85 requirements.
QAPP (SAP) Approved Indicator	For Reg85 say "Yes"

QAPP Approval Agency Name	Required for Reg85 and if the QAPP Approved Indicator is "Yes"; Typically use "USEPA" or "CDPHE WQCD"
Project Attachment File Name	For Reg85 Attach SAP, put full file name, ends with .zip
Project Attachment File Type	Required by AWQMS if file name specified, must be .zip

Any organization with data that needs to be submitted to WQCD for Reg85 MUST also associate this Project ID with their Reg85 Activities/Results or else their data will not be included in the annual CDSN Reg85 data submittal to WQCD. Besides the WQCD_REG85 Project ID, your Reg85 data can also be associated with your organization's internal Project ID(s). Any result can be associated with up to 3 Project IDs.

3. Monitoring Location elements

-- DSN Essential Data Elements for CDSN SURFACE & GROUND WATER MONITORING LOCATIONS -- see latest CDSN Universal Activity/Results Upload Template at http://www.coloradowaterdata.org/cdsnawqms_cdsn.html > Upload Templates tab

(Pink Shaded is what CDSN and/or WQCD required in 2013-2015; Gold Shaded is strongly recommended and/or conditionally required; Gray are available data elements that are not currently included in the "universal template" but can be added if desired.) "Conditional" elements mean that they are required when applicable, depending on the way other metadata has been filled out. Refer to the CDSN Universal upload template white and green tabs, or contact the CDSN Project Coordinator with any questions. The template has all of the info required by both CDSN and CDPHE WQCD (2013-2015).

This is the "Universal" CDSN Monitoring Location metadata included in the CDSN Monitoring Location yellow tab of the upload template:

GROUND WATER ONLY (GW) OR SURFACE WATER ONLY (SW) ELEMENT OR "ALL"	Column/Element	Notes
ALL	Organization ID	

ALL	Monitoring Location ID	
ALL	Monitoring Location Name	For Reg85 WQCD & CDSN requires including CO Discharge Number in the Name
ALL	Monitoring Location Type	
ALL	Monitoring Location Description	Many Reg85 organizations put their discharge permit number (again) here along with node details from their SAP.
ALL	HUC 8	Use the CDSN GIS application to find the HUC8 code (and HUC12)
ALL	HUC 12	Now Required! Use the CDSN GIS application to find the HUC12 code (and HUC8)
ALL	Tribal Land Indicator (Y/N)	Allowable values are "Yes" or "No"
ALL	Tribal Land Name	Conditional if Tribal Land Indicator is "Yes"
ALL	Alternate Monitoring Location ID	Such as USGS Station/Gage station number...
ALL	Alternate Monitoring Location Context	Conditional, if Alt Monitoring Location ID populated
ALL	Latitude	Decimal Degrees; or Deg Min Sec
ALL	Longitude	Decimal Degrees; or Deg Min Sec
ALL	Source Map Scale	Conditional. Required when Horizontal Collection Method = "Interpolation-Map"
ALL	Horizontal Collection Method	
ALL	Horizontal Reference System (Datum)	
ALL	Vertical Measure (Elevation)	
ALL	Vertical Measure UoM (Unit)	Units in Feet ("Ft") recommended
ALL	Vertical Collection Method	
ALL	Vertical Reference System (Datum)	
ALL	State Code	CO (or NM)
ALL	County Name	
ALL	Country Code	US
GW	Well Type	
GW	Aquifer Name	
GW	Well Formation Type	


GW	Well Hole Depth Measure Value	
GW	Well Hole Depth Measure Unit	
ALL	Comments	
ALL	Monitoring Location Attachment File Name	Could be a map or document, save as .pdf first and then zip it to a .zip file.
ALL	Monitoring Location Attachment Type	Required if file name given. Will always be a .zip.
ALL	Waterbody Name	If on Strm/River/Lake/Res; Ex: South Platte
ALL	Assessment Unit ID	
ALL	Assessment Unit Use ID	
ALL	Ecoregion Level 3 ID	
ALL	Ecoregion Level 4 ID	
ALL	Reach Code	
ALL	Township/Range/Section	
ALL	Watershed Management Unit	
ALL	Horizontal Accuracy	
ALL	Horizontal Accuracy UoM	
ALL	Date Established	


4. Activity/Results --

DSN Essential Data Elements FOR PHYSICAL/CHEMICAL ACTIVITIES/RESULTS -- see latest CDSN Universal Activity/Results Upload Template at http://www.coloradowaterdata.org/cdsnawqms_cdsn.html > Upload Templates tab

* is required for AWQMS and/or WQCD, therefore required. For more detailed allowable values refer to green tabs on Activity/Results portion of the CDSN universal upload template. Pink rows are required. White rows are optional or may be required for Ground Water/Well activities. Yellow are conditionally required. "Conditional" elements mean that they are required when applicable, depending on the way other metadata has been filled out. Refer to the CDSN Universal upload template white and green tabs, or contact the CDSN Project Coordinator with any questions. The template has all of the info required by both CDSN and CDPHE WQCD (2013-2015).

This is the "Universal" CDSN Activity/Results metadata included in the CDSN Activity/Results yellow tab in the upload template:

GROUND WATER ONLY (GW) OR SURFACE WATER ONLY (SW) ELEMENT OR "ALL"	Column/Element	WQCD EDD?	* CDSN Required?	Notes
ALL	Project ID	*	*	Matches exactly the ID in Project detail above
ALL	Project ID #2 (if sampling is for 2 different projects;  Required to use CDSN Reg85 or NPS Project IDs for those programs)	*	*	WQCD_REG85 [required in order for your data to be submitted by CDSN to WQCD for Reg85.] -or- CO_NPS [required in order for your data to be searchable as Non-Point Source data]
ALL	Project ID #3 (if sampling is for 2 different projects)			
ALL	Monitoring Location ID	*	*	Matches exactly the ID in Monitoring Location detail above
ALL	Activity ID	*	*	Value: Must be unique, see template for details; often use LABSAMPID on lab sheet or use [MLname][YYYYMMDD][Lab or Field] -- important to put Lab or Field (or L/F) at end.
ALL	Activity Type	*	*	Value: Sample-Routine or Field Msr/Obs or Sample-Composite
ALL	Activity Media Name	*	*	Value: Water
ALL	Activity Media Subdivision Name	*	*	Values: Surface Water or Wastewater Treatment Plant Effluent
ALL	Activity Start Date	*	*	
ALL	Activity Start Time	*	*	
ALL	Activity Start Time Zone	*	*	MST, MDT; Required by WQCD
ALL	Sample Collection Method ID	*	*	Values: GRAB, FIELD METER, SECCHI DISK, STAFF GAGE ...
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Depth/Height Measure	Conditional	Conditional	Depth from surface; additional details can be mentioned in the Activity comment field
GW, SOME SW COMPOSITES OR	Activity Depth/Height Unit	Conditional	Conditional	Typically feet in Colorado

RESERVOIR/LAKE SAMPLES				
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Depth Altitude Reference Point			Can reference if below sea level or below grade or other reference point; recommended if Activity Depth/Height Measure populated
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Top Depth/Height Measure			
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Top Depth/Height Unit			
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Bottom Depth/Height Measure			
GW, SOME SW COMPOSITES OR RESERVOIR/LAKE SAMPLES	Activity Bottom Depth/Height Unit			
ALL	Sample Equipment Name (Type)	*	*	Values: Water Bottle, Probe/Meter, Water Sampler (Other), Van Dorn Bottle ...
ALL	Sample Equipment Comment			
ALL	Characteristic Name	*	*	Values: see lookup tables in template
ALL	Method Speciation	Conditional	Conditional	Required for certain characteristics (as N; as P)
ALL	Result Detection Condition	Conditional	Conditional	Not Detected, see lookups on template for other values
ALL	Result Value	*	*	In AWQMS, required to leave blank if Not Detected in Result Detection Condition
ALL	Result Unit	*	*	
ALL	Result Measure Qualifier *** 	Conditional	Conditional	J, B, D, U ... put in the Result Comment field your lab's definition of the lab code. Different labs may have different meanings for the same letter. SEE CDPHE RESULT DETECTION LIMIT AND J/U COMMENT GUIDANCE AT END OF THIS DOCUMENT.
ALL	Result Sample Fraction	*	*	Dissolved, Total, ...
ALL	Result Status ID		*	Final (Required by AWQMS)
ALL	Statistical Base Code	Conditional	Conditional	Ex, Flow = Mean; will be utilized if trying to report mean daily flow, mean daily

				temperature, etc.
ALL	Result Value Type	*	*	Actual, Estimated, Calculated
ALL	Result Analytical Method ID	*	*	Values: see lookup tables in template
ALL	Result Analytical Method Context	*	*	USEPA, SM, etc.
ALL	Result Weight Basis	Conditional	Conditional	Conditionally required by WQCD (wet weight, dry weight)
ALL	Analysis Start Date	*	*	See CDSN AWQMS forum for guidance from WQCD if not available from your lab
ALL	Analysis Start Time	*	*	See CDSN AWQMS forum for guidance from WQCD if not available from your lab
ALL	Analysis Start Time Zone	*	*	MST, MDT; See CDSN AWQMS forum for guidance from WQCD if not available from your lab
ALL	Result Detection/Quantitation Limit Type1	*	*	MDL, LRL, LQL, IDL. Instrument Detection Level is commonly used for field instruments.
ALL	Result Detection/Quantitation Limit Measure1	*	*	
ALL	Result Detection/Quantitation Limit Unit1	*	*	
ALL	Result Detection/Quantitation Limit Type2	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Some will have two kinds (PQL, MDL,etc) on one lab sheet. Conditional because may not be known. Required if known or if required by REG85.
ALL	Result Detection/Quantitation Limit Measure2	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Some will have two kinds (PQL, MDL,etc) on one lab sheet. Conditional because may not be known. Required if known or if required by REG85.
ALL	Result Detection/Quantitation Limit Unit2	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Conditional - Required if known and/or Required by REG85 for certain REG85 data	Some will have two kinds (PQL, MDL,etc) on one lab sheet. Conditional because may not be known. Required if known or if required by REG85.
ALL	Lab Sample Preparation Method ID	Maybe not REQ for REG85 but was for 2013 WQCD data call. Include to be sure.	*	Filter thru 0.45, etc.; "Default Prep"

ALL	Substance Dilution Factor		Conditional	Enter if on lab sheet
ALL	Laboratory	*	*	Lab name
ALL	Activity Conducting Organization			Used to specify an organization other than the data Org who conducted the sampling activity if desired.
ALL	LabSampleID			Not required, but is included on many Lab Output EDDs and is recommended to include if provided.

* Lab Sample Batch ID can be added to the upload template. If your lab provides this it is recommended to include it on upload.

Any organization with data that needs to be submitted to WQCD for Reg85 must also associate each Activity/Result with the WQCD_REG85 Project ID with their Reg85 Activities/Results or else their data will not be included in the annual CDSN Reg85 data submittal to WQCD.

*****CDPHE GUIDANCE ON REPORTING LAB QUALIFIERS AND DETECTION LIMITS:**

The CDPHE WQCD created in March 2015 a Regulation 85 Guidance Document for Detection Limits . Please consult the Guidance Document. CDSN recommends that this guidance be followed even if your data is not REG85 data for consistency within CDSN AWQMS. If you have any questions about reporting limit definitions or how detection limits are calculated. The document also includes the required reporting levels and method detection limits for reporting regulation 85 results. Please review the Guidance Document:

http://www.coloradowaterdata.org/background_2013/fin/2013_AWQMS_GS_materials/ReportingDetectionLimits-Reg85_030115.pdf

IMPORTANT NOTE FOR REG85 SUBMISSION DATA:

At CDPHE WQCD's determination, Regulation 85 data stored in the CDSN should NEVER be "Exported to WQX" (i.e. sent to the National Data Warehouse) by the data owner. CDPHE WQCD will upload their official final Reg85 dataset for each year that includes all data submitted and compiled into the official record, into the National Data Warehouse themselves, under the Organization ID COLO021.