COLORADO
Department of Public Health & Environment

DISCHARGE MONITORING REPORT GUIDANCE

Water Quality Control Division

4300 Cherry Creek Drive South Denver, Colorado 80246

April 2025

CONTENTS

SECTION 1

OVERVIEW

Purpose and Disclaimer: The purpose of this guidance document is to provide instruction and assistance to the regulated community on how to properly prepare, complete, and submit Discharge Monitoring Report forms (DMRs). The procedures and/or methods described in this document are provided for information only. This guidance is not meant to modify or replace permit language or applicable laws and regulations. In the event of a conflict between this guidance and permit language or applicable laws and regulations, the permit and/or laws and regulations shall govern. It remains the responsibility of the permittee to read and fully understand the terms and requirements of all permits, laws and regulations.

Introduction: The sample collection and analytical results required by the Colorado Discharge Permit System permits must be reported to the Water Quality Control Division through the submission of DMRs (NetDMR or EPA Form 3320-1). DMRs must be submitted to the division by the 28th day of the month following the monitoring period, as required by the permit. This data is then entered into the U.S. Environmental Protection Agency's Integrated Compliance Information System (ICIS) and is available to the public through the EPA's Enforcement and Compliance History Online (ECHO) website at http://echo.epa.gov/.

It is extremely important that the data reported on the DMR form be complete, accurate, timely, and legible to ensure that facility compliance status is correctly reflected. Reported data will be compared with the current limits contained in a facility's permit to determine the facility's compliance. Since DMRs and permits contain limits and information specific to an individual facility, it is the permittee's responsibility to verify that each parameter specified in the permit is included on the DMR. The responsible person completing the DMR needs to ensure they are using the correct DMR and that the information on the DMR matches their permit. Contact the division if any discrepancies are found.

Q&A:

Q: "My facility didn't have a discharge this monitoring period; do I still need to submit a DMR?"

A: Yes. DMRs must be submitted every month / quarter, even if no discharge occurred. See "Reporting No Discharge" on page 6 for more information.

NETDMR

What is NetDMR?
NetDMR is a web-based tool that allows you, as a Colorado Discharge Permit System permittee, to electronically sign and submit your DMRs to the division.

Why do I need to use NetDMR? Is the use of NetDMR required?
The Electronic Reporting Rule (e-rule) became effective **December 21, 2016**. The e-rule requires all DMR data to be submitted electronically. In Colorado, the electronic data submission tool for DMRs is NetDMR. Compliance is enforceable.

If you are not in compliance now, minimize your risk of enforcement consequences by becoming compliant as soon as possible. Meanwhile, you must continue to meet the data submission requirements of your permit by continuing to submit your monitoring data on paper DMRs by their due dates. Submitting your data and how you submit those data are independent requirements.

Are there exceptions to the electronic reporting requirement?
Waivers of the e-rule will be provided to those who submit an official letter of application. Permanent waivers will be granted if the permittee submits a written request stating that they are part of a religious community that chooses not to use certain modern technologies such as electricity and computers. Short-term waivers for up to 60 days will be granted at the division's discretion for emergencies, outages, and other situations beyond the permittee's control.

Are there training requirements?
The division strongly encourages all new users to learn how NetDMR works before trying to use it officially. The division provides training on how to use NetDMR. The training covers all of the essential processes from account creation through DMR submission and final record completion.

What does it take to be approved to use NetDMR?
You must be identified in the official records on file with the division as someone who has authority to sign and certify compliance documents for the permit.

Resources
Division's NetDMR Information Webpage

NetDMR Training Webinar Registration

Permit Forms

CEOS Information

Division NetDMR team: 303.691.4046 or cdphe.wqnetdmrhelp@state.co.us

SECTION 2

UNDERSTANDING THE DMR

Permittee Name/Address
The permittee name and address are obtained and recorded from information in the permit and as provided with the permit application. Please check to verify that the mailing address, facility name, and facility contact are correct on the DMRs. Contact the division if any changes need to be made. See Appendix A for a list of contacts.

Facility Location
The facility location is the physical location of the wastewater treatment facility or project. Contact the division if any changes need to be made. See Appendix A for a list of contacts.

Permit Number
The permit number is the unique number assigned to a treatment facility or project.

Permitted Feature
The permitted feature (e.g. 001A, 002A, 300I, etc.) represents a specific monitoring point or outfall, as described and identified in the permit. If a facility/project has more than one monitoring point, make sure the information reported on the DMR corresponds with the correct permitted feature.

Monitoring Period
The monitoring period corresponds with the reporting requirements of the permit and is listed on the DMR as the first day of the monitoring period through the last day of the monitoring period. The monitoring period can be a calendar month, a calendar quarter, a calendar year, or a season. The information reported on the DMR must correspond with the specific monitoring period listed on the DMR.

Reporting No Discharge

- Report "No Discharge" using No Data Indicator (NODI) Code C if your facility/project did not discharge from an external outfall (permitted feature) during the monitoring period. Do not report "No Discharge"/NODI C if the facility/project had a discharge but you failed to sample.
- Do not report "No Discharge"/NODI C on the DMR for an influent permitted feature (e.g., 300I)) if there was influent flow. Similarly, do not report "No Discharge" if there was influent flow but you failed to sample.
- Domestic wastewater treatment facilities are required to monitor influent parameters as specified in the permit regardless of whether or not an effluent discharge occurs.
- All facilities with ambient temperature monitoring requirements must monitor ambient temperature as specified in the permit regardless of whether or not an effluent discharge occurs.

Parameter
The influent or effluent parameters required to be monitored as specified by the permit are listed in this column.

Permit Requirement
These rows list the permit effluent limitation(s) that correspond to each parameter.

Sample Measurement
Sample measurement data for each parameter is reported under the "Quantity or Loading" or "Quality or Concentration" columns in accordance with the permit. Enter the sample measurement data in the fillable value boxes. If data is not available, use the appropriate NODI code in place of a value. Do not leave value boxes blank on the DMR.

Units
The DMR includes the units (e.g., mg/l, MGD, lbs/day, etc.) in which the sample measurement must be reported, as specified by the permit. It may be necessary to convert the data to the required units prior to entering it on the DMR.

No. Ex (Number of Exceedances or Exceptions)
Enter the number of sample measurement values that exceeded the permit limit for each parameter. This number represents the sum of all sample exceedances/exceptions measured during the monitoring period (i.e., how many times a limit was not met). In the case of a maximum or minimum limit, each sample analysis that violates either limit should be counted. For an average (7-day, 30-day average, etc.) limit, each average in excess of the limit should be counted.

Q&A:

Q: "I neglected to take a sample this month; what do I report on my DMR?"

A: If you do not sample any parameter required to be monitored by your permit, please report NODI E in the value box and attach a letter of explanation.

NetDMR will flag effluent violations as "soft errors" and will require you to acknowledge the effluent violation prior to submitting the DMR.

Frequency of Analysis
The frequency of analysis represents the number of times the discharge was actually sampled and analyzed during the monitoring period. The frequency of analysis must be at least the minimum required by the permit and should be reported in the same units as specified in the permit. Any additional monitoring must be included in the DMR calculations and reported in the "Frequency of Analysis" box for that parameter.

- If the discharge is sampled more than the minimum requirement, adjust the frequency of analysis using the drop-down in NetDMR.
- If the discharge is sampled less than the minimum requirement, adjust the frequency of analysis using the drop-down in NetDMR and attach a cover letter of explanation to the DMR submission.

- If the discharge is sampled at differing frequencies within the monitoring period, the Permittee should report the lowest applicable frequency using the drop-down in NetDMR, and attach a cover letter explaining the actual frequency of analysis.
    - Example: Monitoring varied every week. Reporting "Weekly, 1/7" on DMR and attach a cover letter explaining actual monitoring frequency: 'Week one – 1/7, Week two – 5/7, Week three – 2/7, Week four - 1/7.'

Sample Type
The sample type represents how the permittee monitored required parameters during the monitoring period. The sample type in NetDMR will default to the sample type specified in the permit; if the sample type differs from the sample type specified in the permit, the permittee must adjust the sample type using the drop-down in NetDMR.

Name/Title Principle Executive Officer
The name and title of the legally responsible person on file with the division as provided on the permit application or most recent change of contact form.

Signature
Every page of the DMR must be signed by the Principle Executive Officer or DMR Cognizant Official. It is important to read and understand the certification statement. By signing the DMR, the Principle Executive Officer or duly authorized representative is certifying to the division, under penalty of law, that the information on the DMR is true and accurate.

Telephone
The telephone number of the Principal Executive Officer.

Date
The actual date that the DMR is signed and submitted by the Principal Executive Officer or DMR Cognizant Official certifying and authenticating the data submitted on the DMR.

INTERACTIVE SAMPLE DMR

NOTE: You can click on any colored box below to be taken to the term definitions listed above

DMR Copy of Record

Permit

Permit #:

Major:

Permittee:

Permittee Address:

Facility:

Facility Location:

Permitted Feature:

Discharge:

Report Dates & Status

Monitoring Period:

DMR Due Date:

Status:

Considerations for Form Completion

Oil & grease - see Note 2, pg 10.

Principal Executive Officer

First Name:

Last Name:

Title:

Telephone:

No Data Indicator (NODI)

Form NODI: --

Parameter Code	Parameter Name	Monitoring Location	Season #	Param. NODI		Quantity or Loading Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Quality or Concentration Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units	# of Ex.	Frequency of Analysis	Sample Type
00400	pH	1 - Effluent Gross	0	--	Sample															
					Permit Req.						>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU		01/07 - Weekly	IS - INSITU
					Value NODI															
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample															
					Permit Req.								<=	30 30DA AVG	<=	45 MX 7D AV	19 - mg/L		01/07 - Weekly	GR - GRAB
					Value NODI															
03582	Oil and grease	1 - Effluent Gross	0	--	Sample															
					Permit Req.										<=	10 INST MAX	19 - mg/L		77/77 - Contingent	GR - GRAB
					Value NODI															
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample															
					Permit Req.			<=	7000 DAILY MX	78 - gal/min									01/07 - Weekly	IN - INSTAN
					Value NODI															
51040	E. coli	1 - Effluent Gross	0	--	Sample															
					Permit Req.								<=	126 30DA GM	<=	252 MX 7D GM	13 - #/100ml		01/07 - Weekly	GR - GRAB
					Value NODI															
84066	Oil and grease visual	1 - Effluent Gross	0	--	Sample															
					Permit Req.				Req Mon INST MAX	AB - abst=0;prst=1									01/07 - Weekly	VI - VISUAL
					Value NODI															

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

Comments

Attachments

Name	Type	Size
	pdf	66312

Report Last Saved By

User:

Name:

E-Mail:

Date/Time:

Report Last Signed By

User:

Name:

E-Mail:

Date/Time: (Time Zone:)

SECTION 3

SAMPLING AND REPORTING INFORMATION

Sampling and analytical procedures must comply with EPA approved methods listed in 40 CFR §136. Effluent self-monitoring samples taken in compliance with the monitoring requirements specified in a permit should be taken at the permitted feature(s), following final treatment but prior to entering the receiving stream.

Reporting of Additional Samples

If the permittee, using an approved analytical method, monitors any parameter more frequently than required by the permit, the results of such monitoring **must** be included in the calculation and reporting of the values required by the permit on DMRs.

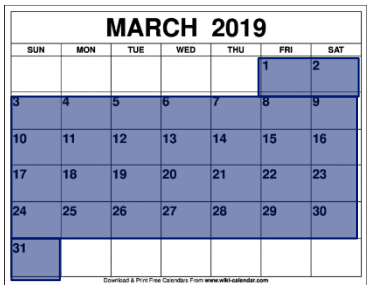
If samples are taken following final treatment and prior to entering the receiving stream at a location that is **different from** the permitted feature, the sample results should still be included in the averaging and reporting of analytical results on the DMR, provided the sample type is consistent with permit requirements and 40 CFR §136. The permittee should review the terms and conditions of their permit and ensure all future sampling takes place at the permitted feature.

Understanding Averages and Maximum/Minimum Limitations

"Average" is the arithmetic average (geometric mean for bacterial parameters) of all sample data for each parameter obtained during the specified monitoring period. Examples of common reporting averages include 30-day average and 7-day average. For DMR reporting purposes, the 30-day average is based on a calendar month, regardless of how many days are in the month. The 30-day average is calculated using the number of actual samples taken during the calendar month. For the purpose of this guidance, "monthly average" and "30-day average" are used interchangeably.

Note: Zero flow readings should not be included in 30-day average calculations for flow monitoring.

Note: If the discharge is intermittent during a monitoring period, do not use zero (0) to represent the data for that day when calculating averages. See "Intermittent Discharge" example on page 11.



In this example, the 30-day average would be calculated using data from all 31 days in March, regardless of the term "30-day average".

Many permits require monthly and/or weekly monitoring and quarterly reporting. The following are common averaging scenarios encountered by permittees with quarterly reporting:

- **Monthly Monitoring and Quarterly Reporting:** Three samples are obtained (1 sample/month). The highest of the three samples is reported as the 30-day average and Max 7-day average.

Example:

Sample Results
Month 1 – 30 mg/L
Month 2 – 37 mg/L
Month 3 – 28 mg/L

→

Data Reported on Quarterly DMR
30-day average = 37 mg/L
Max 7-day average = 37 mg/L

- **Weekly Monitoring and Quarterly Reporting:** If each month in the quarter had four weeks, 12 samples are obtained. The highest of the 12 samples is reported as the Max 7-day average. The weekly samples are averaged within each month and the highest of these averages is reported as the 30-day average.

Example:

Sample Results
Month 1 (5 weekly samples)
30 mg/L, 28 mg/L, 15 mg/L, 14 mg/L, 17 mg/L

Month 2 (4 weekly samples)
37 mg/L, 18 mg/L, 42 mg/L, 32 mg/L

Month 3 (4 weekly samples)
28 mg/L, 24 mg/L, 12 mg/L, 5 mg/L

→

Monthly Averages
Month 1 average – 21 mg/L
Month 2 average – 32 mg/L
Month 3 average - 17 mg/L

↓

Data Reported on Quarterly DMR
30-day average = 32 mg/L
Max 7-day average = 42 mg/L

- **Monthly Monitoring and Quarterly Reporting (Intermittent Discharge)**: Monitoring is performed for each monitoring period a discharge occurs. The highest of the samples is reported as the Max 7-day average and the samples are averaged and the result is reported as the 30-day average.

Example:

Sample Results
Month 1 – 30 mg/L
Month 2 – No Discharge
Month 3 – 28 mg/L

→

Data Reported on Quarterly DMR
30-day average = 29 mg/L
Max 7-day average = 30 mg/L

The averages for bacteria concentrations should be determined by using the geometric mean instead of the arithmetic mean. For information on how to calculate the geometric mean, refer to SECTION 4.

"Maximum" and "Minimum" are the highest and lowest measurements obtained during the specified monitoring period (**usually** a calendar month). The **"Daily Maximum Limitation"** for all parameters (except temperature, pH, total residual chlorine, oil & grease, and dissolved oxygen) means the limitation is applied as an average of all samples collected in a calendar day or any 24-hour period that reasonably represents the calendar day. For DMR purposes, the highest daily average calculated in the month should be reported as the daily maximum value. If only one measurement or sample is taken during a calendar day or representative 24-hour period, the single measured value for a pollutant will be considered the daily maximum measurement for that calendar day or representative 24-hour period. For pH, total residual chlorine, oil & grease, and dissolved oxygen, the daily maximum limitation (and/or minimum) is an instantaneous maximum (and/or instantaneous minimum) value. The instantaneous value is defined as the analytical result of any individual sample. For DMR purposes, the maximum (and/or minimum) instantaneous value for pH, total residual chlorine, oil and grease, and dissolved oxygen measured within the calendar month should be reported as the daily maximum (and/or minimum) value. Note: the "Daily Maximum Limitation" as it relates to pollutants with limitations expressed in units of mass (e.g. lbs/day), should be determined by summing the total mass of the pollutant discharged over the day in which sampling occurs. For information on how to calculate daily loading values, refer to SECTION 4. Monthly mass loading (e.g. lbs/month) should be determined using the total volume discharged during the month and the average of concentration values during that month.

Q&A:

Q: "My Permit contains an average and a maximum limit for a parameter (e.g. 30-day average and daily maximum) but we only sample once a month. What should I report on our DMR?"

A: If only one sample is taken, the result for that sample should be used for both the average and the maximum

Q&A:

Q: "My permit requires quarterly reporting and contains a 30-day average for a parameter with monthly monitoring, what should I report on my DMR?"

A: The highest 30-day average of the quarter should be reported on the DMR.

Reporting Timeframes

- A **calendar week** begins on Sunday and ends on Saturday
- **"Daily"** is the discharge of effluent measured during a calendar day of any 24-hour period that reasonably represents the calendar day
- **If a calendar week begins in one month and ends in the next month**, the weekly monitoring results should be included in DMR for the next month.

Practical Quantitation Limit / Below Detection Limit

EPA approved methods (as defined by 40 CFR 136) must be used to collect and analyze effluent samples for permit compliance. The division has established practical quantitation limits (PQLs) that set the precision and accuracy expectations associated with these methods. These PQLs (state PQLs) are identified in each permit and in the division's PQL Policy (CW 6).

The analytical method used by the permittee should be the one that can measure at or below the numeric effluent limit in the permit, where possible. This means that the quantification/detection level (sometimes referred to as minimum level (ML), minimum reporting limit (MRL), or reporting limit (RL) achieved by the permittee's laboratory must be less than or equal to the effluent limit or the applicable state PQL(s).

Some laboratories/analytical methods may be able to quantify a concentration of an analyte (substance) at a level lower than the state PQLs. In these instances, the permittee should use the laboratory's ML/MRL/RL for DMR reporting purposes. If the analytical method yields a numerical value (i.e. not a non-detect result / not <ML/MRL/RL), the permittee should report the value detected, regardless of if that value is lower than the applicable state PQL.

Reporting "<X"

When the laboratory ML/MRL/RL is less than or equal to the permit limit and the analytical result is less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL), "<X" should be reported on the DMR, where X is the laboratory ML/MRL/RL. As noted above, the laboratory's ML/MRL/RL may be lower than the applicable state PQL(s).

Reporting NODI B

For certain parameters, the state PQLs may be higher than the applicable effluent limit in the permit. When the state PQL and laboratory ML/MRL/RL is greater than the applicable numeric effluent limit specified in the permit, the analytical method with the lowest available laboratory ML/MRL/RL should be used for the analysis. As noted above, this ML/MRL/RL may be lower than the applicable state PQL, while still higher

than the applicable effluent limit in the permit. For DMR reporting purposes, if the analytical result is less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL), the permittee should report NODI B (below detection limit (BDL)) on the DMR. Use of BDL on the DMR will not be considered a violation of the permit limit, as long as the laboratory ML/MRL/RL is less than or equal to the applicable current state PQL(s).

Reporting Data for Parameters with Report Only Monitoring Requirements
For parameters that have a report-only limitation, the laboratory ML/MRL/RL must be sufficiently sensitive to quantify the result to the applicable water quality criteria (i.e., future numeric effluent limit, lowest water quality standard, etc.), as possible.

Note: the permit-specific applicable water quality criteria will be identified in a permit compliance schedule or the water quality assessment associated with the permit (for individual permits) or in the permit certification and/or fact sheet associated with the permit certification (for general permits). Due to the methodology and process utilized to develop water quality standards (e.g. toxicological studies, etc.), there may be instances where current approved analytical methods are unable to measure to the lowest water quality standard/water quality criteria. In those scenarios, the permittee shall ensure the selected analytical method can measure at or below the applicable state PQL, as discussed further above.

When the analytical method yields a result that is less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL), "<X" should be reported on the DMR (where X is the applicable laboratory ML/MRL/RL). As specified in most permits, the permittee should not utilize "Below Detection Limit/NODI B" at any point when reporting against a report-only limitation.

Reporting Calculated Values
To calculate average concentrations (e.g., 7-day average, 30-day average, 2-year average), any individual analytical result that is less than the ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL) should be considered zero for calculation purposes.

If all individual analytical results are less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL), report either "BDL" or "<X" following the guidance above.

If one or more individual analytical results are greater than the laboratory ML/MRL/RL, an average should be calculated and reported. Note that it does not matter if the final calculated average is greater or less than the laboratory ML/MRL/RL – it must be reported as a value.

To calculate mass loading (e.g., lbs/day), any individual analytical result that is less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL) should be considered as zero.

Note: When calculating Total Inorganic Nitrogen ("T.I.N.") for a single sampling event, any value of less than the laboratory ML/MRL/RL (i.e. a non-detect result / <ML/MRL/RL) for total ammonia and/or total nitrate plus nitrite should be treated as zero. The T.I.N. concentration for a single sampling event should then be determined as the sum of the analytical results (zero if applicable) of same-day sampling for total ammonia and total nitrate plus nitrite. From these calculated T.I.N. concentrations, the daily maximum and 30-day average concentrations should be calculated and must be reported as a value.

Table 1: Example - When to use BDL

Lab Result	Lab ML/MRL/RL	State PQL	Permit Limit	DMR Value	Violation?
<2	2	5	5	<2	No
3	2	5	5	3	No
6	6	7	5	6	Yes - The result is greater than the permit limit and the lab ML/MRL/RL
<6	6	7	5	BDL	No
4	4	6	5	4	No
<6	6	4	5	Invalid Test - Did not achieve required PQL	Yes
<6	6	7	Report Only	<6	No

No Data Indicator (NODI) Codes

NODI Codes are used when numerical effluent data is unavailable or not required. The following table lists all available NODI codes. NODI codes fall under three categories as described below:

- NODIs that indicate monitoring exemptions: These NODIs include circumstances defined in the permit that exempt you from a monitoring requirement. Use of these NODI codes does not result in an automatic permit violation but should only be used as appropriate.
- NODIs that indicate permit violations: These NODIs are used to represent permit violations such as failure to monitor or equipment failures. Use of these NODI codes will result in an automatic permit violation and require an attached letter of explanation with the DMR submission.
- NODIs that indicate monitoring not possible: These NODIs are used in the rare case when monitoring is not possible, such as during a fire or other natural disaster. Use of these NODI codes does not result in an automatic permit violation, but may be considered a violation depending on the circumstances. A letter of explanation should be included with the DMR submission.

Table 2: NODI Codes

NODI Code	Meaning	When to Use It	Example(s)	Violation?	Explanation required?
2	Operation Shutdown	Used when a sample is not collected because the facility is not operating **AND not discharging** due to a temporary or seasonal shutdown.	A facility is temporarily shut down due to winter weather conditions **AND** is **not** discharging.	No	No

NODI Code	Meaning	When to Use It	Example(s)	Violation?	Explanation required?
		Note: This code should not be used if the facility is shutdown but still discharging (i.e., groundwater effluent through a leach field)			
3	Special Report Attached	**DO NOT USE**	**DO NOT USE**	N/A	N/A
7	No Influent	Used when an influent sample cannot be collected because there was no influent to the facility	No influent to the facility during the monitoring period.	No	No
9	Conditional Monitoring – Not Required This Period	Used when a permit only requires a parameter to be monitored in certain conditions or at certain points during the year.	Monitoring for total residual chlorine was not required because UV was used for disinfection. Sample analysis for oil and grease was not required because oil and grease was not evident upon visual inspection. Monitoring for PFAS was not conducted, as it is only required once per permit term	No	No
A	General Permit Exemption	Used when an exemption is allowed and defined in permit		No	No
B	Below Detection Limit/BDL	Used when the analytical result is less than the laboratory's ML/MRL/RL **AND** the MRL is higher than the permit effluent limitation. Note: If the	The analytical result from the laboratory for total residual chlorine is <0.5 mg/L. The facility's effluent limitation for total residual chlorine is 0.011 mg/L.	No	No – Attach lab results

NODI Code	Meaning	When to Use It	Example(s)	Violation?	Explanation required?
		laboratory's MRL is not higher than the permit effluent limitation, <"X" should be reported on the DMR, with "X" being the MRL. Note: The laboratory's MRL should always be less than or equal to the state's approved PQL. More information on this can be found under "Practical Quantitation Limit/Below Detection Limit"			
C	No Discharge	Used when the facility is operational but there was no discharge during the monitoring period.	A facility conducting construction dewatering activities was operational but did not encounter any groundwater during the monitoring period. A wastewater lagoon did not discharge from its permitted effluent outfall location.	No	No
E	Analysis Not Conducted/No Sample	Used when there is no sample for a parameter because a sample was not collected **OR** the laboratory analysis was not performed	Permittee failed to take required samples. Permittee failed to include parameter analysis on chain of custody. Sample was lost in transit to the laboratory.	Yes	Yes

NODI Code	Meaning	When to Use It	Example(s)	Violation?	Explanation required?
			Sampling/monitoring equipment failure. Improper sample collection made analysis not possible.		
F	Insufficient Flow for Sampling	Used when a sample could not be collected due to insufficient flow.	A facility discharged during the monitoring period, but could not collect a sufficient volume of effluent for laboratory analysis.	Maybe	Yes
I	Land Applied	Used when action is specified by permit.		No	No
N	Not Constructed	Used when a permittee has received a discharge permit for a facility that has not yet been constructed	The facility has not been constructed and is not discharging.	Maybe	Yes
P	Laboratory Error or Invalid Test	Used when a laboratory or analytical method fails and results in an invalid test result.	Lab sampling equipment failed and no additional sample was available for re-testing. Sample was taken but analysis did not meet 40 CFR 136 requirements. Sample was taken but lost after receipt by laboratory. Sample was improperly preserved or exceeded its maximum holding time. Laboratory omitted an analysis that was requested on the chain of custody.	Yes	Yes

NODI Code	Meaning	When to Use It	Example(s)	Violation?	Explanation required?
			Other laboratory error such as quality assurance failure, cross-contamination, procedural error, calculation error, etc.		
Q	Not Quantifiable	Used when the result is greater than the Method Detection Limit ("MDL") but below the Minimum Level ("ML")	Laboratory reports cyanide result above the MDL but below the ML and uses an E4 data qualifier indicating that the results are estimated.	Maybe	Yes
T	Environmental Conditions – Monitoring Not Possible	Used when environmental conditions prevent facility access and/or monitoring	Fire, flood natural disaster, or other weather condition is preventing access to the facility and/or outfall point(s) for monitoring purposes. This NODI code is also used when facility or monitoring access is not possible due to winter weather or frozen conditions.	Maybe	Yes
W	Dry Lysimeter /Well	This NODI code is rarely used. Used when a sample could not be collected due to groundwater low flow.	Low groundwater or slow recharge prevented sample collection during the monitoring period.	No	No

Reporting Permit Exceedances, Failures to Sample, or Other Permit Violations
A cover letter must accompany your DMR when the DMR includes a violation of a permit condition, including failure to sample. The cover letter must explain the cause(s) of the violation and the actions that the facility has taken and/or plan to take to remedy the violations.

Revised/Corrected DMRs
Sometimes it will be necessary for the facility to submit a revised or corrected DMR either because the division has requested it or the facility has discovered an error. In this instance, the information should be updated with the submittal of a revised DMR.

When resubmitting DMRs on NetDMR, enter the updated/ corrected information in NetDMR and include a comment that identifies what was changed on the DMR. NetDMR will have two copies of record for the monitoring period (the originally submitted DMR and the revised DMR).

Transmittal
Whether submitting by mail of electronically via NetDMR, the DMR must be received by the division no later than the 28th day of the month following the end of the monitoring period. The DMR must contain an original signature (or electronic signature if submitting via NetDMR) from the Principle Executive Officer (or the DMR Cognizant Official), and must be complete. Permit holders must retain copies of the DMRs for at least three years.

Q&A:

Q: "My contract lab has informed me that some analytical results will not be available before the DMR is due on the 28th day of the month following the end of the monitoring period; what should I do?"

A: Submit your DMR on time using NODI E for all parameters that do not have results yet and submit a letter of explanation. When you receive results, revise the DMR with data and include an explanation for the revision.

SECTION 4

DMR CALCULATIONS

Calculating Sample Values Calculating a Geometric Mean
For bacteria (e.g., *E. coli*) concentrations, the 30-day and 7-day averages should be determined by using the geometric mean instead of the arithmetic average. The geometric mean may be calculated using two different methods. For the methods shown, "a, b, c, d…" are individual sample results and "n" is the total number of samples.

Method 1: Geometric Mean = $(a*b*c*d*...)^{(1/n)}$ (* = multiply)[1]

Method 2: Geometric Mean = antilog ([log(a)+log(b)+log(c)+log(d)+...]/n)

In calculating the geometric mean, any analytical result of "0" should be converted to "1." For any analytical result reported by the laboratory as "less than X" a numeric value should be converted to "X" for the geometric mean calculation. If all individual analytical results for the month are reported to be less than numeric values, then report "less than" the largest of those numeric values on the DMR. Otherwise, report the calculated value.

Reporting "Too Numerous to Count (TNTC)" and ">" Results.
E. coli samples should be prepared in a manner that generates quantifiable results (e.g. results that are not "TNTC" or ">"), and at minimum, should include consideration of the permitting limits, particularly the 7-day limit. Sample preparation may include dilution of samples to enumerate the results. If the proper dilution ratio is not known, the Division recommends the permittee collect enough sample to run multiple dilutions concurrently to yield quantitative results. If multiple dilutions yield quantifiable results, the permittee shall report the result of the run using the lowest dilution with quantifiable results on the discharge monitoring report.

- For example, a sample diluted 1:10 yielding 125 cfu/100mL (1250 cfu/100mL given the dilution) and a sample diluted 1:100 yields 18 cfu/mL (1800 cfu/100mL). The data reported on the DMR would be 1250 cfu/100mL since it is from the least dilute sample.

When there is no quantifiable result, instead of reporting "TNTC," permittees should request that the laboratory report the results as "> X," where X is the maximum number of colony forming units/100 mL based on the sample dilution(s). A "TNTC" or ">" result reported on a DMR is considered a permit violation. For any analytical result reported by the laboratory as "> X," the numeric value should be converted to "X" in the geometric mean calculation. If multiple dilutions yield ">" results, use the most dilute sample's result for DMR reporting purposes. After the proper geometric means are calculated using that dilution, place a ">" in front of the calculated value for DMR reporting.

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[1] In MS Excel write the calculation as "=(a*b*c...)^(1/n)" where a, b, c etc. are individual samples and n is the total number of samples. On a calculator, multiply the individual results (a*b*c...) then separately divide (1/n). Use the multiplied individual results and raise to the power of the 1/n result.

Example:

- Monday is reported as 1580 cfu/100mL
- Wednesday is reported as >24,196 cfu/100mL
- Friday is reported as 825 cfu/100mL

Calculation for 7 day geomean: $(1580 * 24{,}196 * 825)^{(1/3)}$= 3,159 cfu/100mL

DMR Value = >3,159 cfu/100mL

BOD_5 and TSS Percent Removal Calculations

The monthly average percent removal is not calculated by averaging the daily percent removal values. Instead, the monthly average percent (%) removal is calculated from two numbers: the monthly average influent concentration and the monthly average effluent concentration. The percent removal calculations are performed using the following formula:

% Removal = [(monthly average influent concentration – monthly average effluent concentration) ÷ monthly average influent concentration] × 100

Influent Loading Calculations

To determine representative 30-day average loading values, use the total daily influent wastewater flow (MGD) on the day that the BOD composite sample is collected in the calculation. The loading calculation is performed using the following formula:

Loading = (total daily influent flow in MGD × BOD concentration in mg/l) × 8.34 = Loading in lbs/day

Systems monitoring one time per week or more during the monitoring period should calculate daily loading values using the formula outlined above and average all loading values for the week. For DMR reporting purposes, the 7-day average loading is the highest of the 7-day averages calculated during the monitoring period. For DMR reporting purposes, the 30-day average loading value is an average of each daily loading value during the month.

Note: Representative loadings are not obtained by using the 30-day average flow and the average of all concentration results for the corresponding 30-day period. This same concept applies to the 7-day average calculation.

Monthly and Annual Nutrient Mass Loading Calculations

To determine monthly and annual total nitrogen (TN) and total phosphorus (TP) loading, use the following formula:

Monthly Loading = (average TN or TP concentration in mg/L of the composite samples collected during the month x total monthly effluent flow in million gallons) x 8.34

Annual Loading = Sum of 12 monthly loadings, each calculated using the month loading formula above

Percent Design Capacity Calculations

Pursuant to §25-8-501, C.R.S., domestic wastewater treatment works are required to 1) initiate engineering and financial planning for expansion whenever throughput and treatment reaches 80% of design capacity, and 2) commence construction of such expansion whenever throughput and treatment reaches 95% of design capacity. The hydraulic and organic design capacities for a specific facility are identified in the permit and/or certification to the permit. The percent capacity calculations for hydraulic and organic loading are performed using the following formulas:

% Hydraulic Capacity = monthly hydraulic loading (MGD) ÷ hydraulic design capacity (MGD) × 100

% Organic Capacity = monthly organic loading (lbs BOD_5/day) ÷ organic design capacity (lbs BOD_5/day) × 100

PFAS Sum
PFAS Sum is the total concentration of seven different constituents. The formula for calculating PFAS Sum is: PFAS Sum (ng/l) = [PFOA] (ng/l) + [PFOSA] (ng/l) + [PFNA] (ng/l) + ([NEtFOSAA] (ng/l) * 0.85) + ([NMeFOSAA] (ng/l) * 0.88) + [PFOS] (ng/l) + ([8:2 FTS] (ng/l) * 0.78). A PFAS Sum Calculator Tool is available online to assist with the calculation of the PFAS Sum.

Rolling Average
A rolling average is calculated by using data results from the current monitoring period and the respective designated interval prior to the current monitoring period.

Example: 12 month rolling average. Calculate the current monthly average and the previous 11 monthly averages and divide the total by 12.

12 MRA = (MA_C +MA_1 +MA_2 +...+MA_{11}) ÷ 12

MA_C = Current monthly average
MA_1 = First prior month's monthly average
MA_2 = Second prior month's monthly average
MA_{11} = Eleventh prior month's monthly average

Composite Sampling/ Flow Proportioned Sample Calculations
Procedures for Calculating Flow Proportioned Sampling:

1) Determine required composite sample volume by contacting analytical lab and obtain five (5) containers of the required composite sample size
2) Collect four (4) grab samples at predetermined intervals and store samples at ≤ 6°C, but above freezing
   a) **Hour 0:** Record totalized flow (if not there at Hr 0, utilize chart recorder or totalizer history read out to find totalized flow)
   b) **Hour 2:** Read totalized flow and grab first sample
   c) **Hour 4:** Read totalized flow and grab second sample
   d) **Hours 6 and 8:** Read totalized flow and grab samples
3) Calculate grab sample proportion **(Q ÷ Total Q)** of each grab sample to be added to the composite:
   a) Calculate volume of flows between each of the 2-hour increments (e.g., Hour 2 totalized Flow – Hour 0 totalized Flow)
   b) Calculate volume of Total Flow (Q) by subtracting the Hour 0 totalizer reading from the Hour 8 totalizer reading
   c) Calculate grab sample proportion by dividing 2-hour Flows by the total Q and then record in Grab Sample Proportion Column
4) Calculate grab sample volumes into composite = **Volume of Composite sample required × Grab Sample Proportion**
5) Measure out proportioned grab sample volume for each grab sample and place in Container Five (5), the "Composite Sample"

Example: The following table is an example influent composite sample. For this example, the total composite sample volume required by the lab is 4,000 ml and the composite sample start time is 06:00 to 14:00.

Table 3: Example Influent Composite Sample

Composite Time (Hours)	Time of Day (Hours)	Read Flow Meter Totalizer (gal)	Flow (Q) (gal)	Grab Sample Time	Grab Sample Proportion (ratio)	Volume of Grab Sample Taken (ml)	Grab Sample Volume into Composite (ml)
0	6:00	7,000					
1	7:00		5,000				
2	8:00	12,000		X	0.556	4,000	2224
3	9:00		1,000				
4	10:00	13,000		X	0.11	4,000	440
5	11:00		500				
6	12:00	13,500		X	0.056	4,000	224
7	13:00		2,500				
8	14:00	16,000		X	0.278	4,000	1112
		Total Q = 9,000		**Total = 1.000**		**Total = 4,000**	

Note: A consistent period of composite sampling should be selected and adhered to. For facilities that conduct composite sampling on a daily frequency, if problems are encountered during the collection of daily composite samples, the composite sampling period should not be restarted. The permittee should analyze all samples that were properly collected and composited during a specific 24-hour period, average all data in accordance with the permit, document the problem or issue that was encountered, and explain the problem or issue when submitting DMRs in accordance with the notification procedures in the permit. In the event of an automatic sampler failure, automatic samples and manual samples can be composited as long as each sample is proportioned according to flow and is representative of the parameter being monitored.

Sodium Adsorption Ratio (SAR), Adjusted SAR, and Electrical Conductivity (EC)
The sodium adsorption ratio (SAR) and electrical conductivity (EC) limitations are implemented in permits as measures of salts in the effluent to protect irrigated crops and soils downstream of the discharge. Each permit with SAR and EC monitoring and reporting requirements has unique SAR and EC limitations based on the agricultural usages of water downstream of the facility's discharge. The fact sheet and water quality assessment associated with the facility's permit explain the rationale for the SAR and EC limitations in depth and should be referred to for more facility specific information on SAR and EC.

SAR, adjusted SAR, and permit compliance should be determined using the following procedure:

1) Determine the EC of your effluent
2) Calculate the allowable SAR (ie., permit limit) using the actual EC of the effluent (30-day average value) with the following equation:

   SAR= [(7.1 * EC) – 2.48]

   - This calculated SAR value is reported on the DMR as the "Sodium Absorption Ratio at Monitoring Location 'EG'"

3) Determine the adjusted SAR of your effluent using the sodium (Na^{+}), magnesium (Mg^{++}), calcium (Ca^{++}), and bicarbonate (as HCO_3) concentrations in your effluent (expressed in units of milliequivalents per liter (meq/l)), and the "Modified Calcium Determination for Adjusted Sodium Adsorption Table" found in your permit. Adjusted SAR is calculated with the following equation:

$$\text{SAR-adj} = \frac{Na^{+}}{\sqrt{\frac{Ca_x + Mg^{++}}{2}}}$$

   - This adjusted SAR value is reported on the DMR as the "Sodium Absorption Ratio at Monitoring Location 'P'"

4) The permit limit for SAR is expressed as a Pass/ Fail limit, with "0" indicating "pass" and "1" indicating "fail." If the adjusted SAR is less than or equal to the calculated SAR, report "0" on the DMR as the SAR at Monitoring Location "1." If the adjusted SAR is greater than the calculated SAR, report "1" on the DMR as the SAR at Monitoring Location "1."

For additional information on SAR, please refer to the division's Policy WQP24 Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops.

Daily Maximum Temperature (DM)
DM is the highest 2-hour average water temperature measured by a continuous recorder during a given 24-hour period. This is determined using a rolling 2-hour maximum temperature. For example, if the recorder collects data every 15 minutes, a 2-hour maximum can be determined on every data point after the initial 2 hours of collection. Note that the time periods that overlap days (e.g., Wednesday night to Thursday morning) are inconsequential to calculating and reporting because the value on the DMR is the greatest of all the 2-hour averages.

For example, data points collected at:

- 08:15, 08:30, 08:45, 09:00, 09:15, 09:30, 09:45, 10:00, would be averaged for a single 2-hour average data point
- 08:30, 08:45, 09:00, 09:15, 09:30, 09:45, 10:00, 10:15, would be averaged for a single 2-hour average data point
- 08:45, 09:00, 09:15, 09:30, 09:45, 10:00, 10:15, 10:30, would be averaged for a single 2-hour average data point

This would continue throughout the course of a calendar day. The highest of these 2-hour averages over a month would be reported on the DMR as the daily maximum temperature. At the end/beginning of a month, the collected data should be used for the month that contains the greatest number of minutes in the 2-hour maximum. Data from 11 pm to 12:59 am, would be included in the calculations for the previous month. Data collected from 11:01 pm to 1:00 am would be included in the calculations for the new month.

Maximum Weekly Average Temperature (MWAT)
The MWAT is the largest mathematical mean of multiple, equally spaced, daily temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day.

The MWAT is calculated by averaging all temperature data points collected during a calendar day, and then averaging the daily average temperatures for 7 consecutive days. This 7-day averaging period is a rolling average, i.e. on the 8th day, the MWAT is the average of the daily averages of days 2-8. The MWAT value reported on the DMR is the highest of all the rolling 7-day averages throughout the month. For those days that are at the end/beginning of the month, the data should be reported for the month that contains 4 of the 7 days within the calculation.

Each monthly MWAT calculation will include data from the previous month and the subsequent month. Rolling 7-day average calculations beginning on Day 4 of each month through Day 3 of the subsequent month should be included.

Day 1: Average of all temperature data collected during the calendar day.
Days 2 through 6: Average of all temperature data collected during the calendar day.
Day 7: Average of all temperature data collected during the calendar day.
1st MWAT Calculation as average of previous 7 days
Day 8: Average of all temperature data collected during the calendar day.
2nd MWAT Calculation as average of previous 7 days
Day 9: Average of all temperature data collected during the calendar day.
3rd MWAT Calculation as average of previous 7 days

For additional information on MWAT, see the division's Policy WQP23 Procedures for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits.

Two-Year Rolling Average (Antidegradation limit)
Two-Year Rolling Average (Antidegradation limit) is the average of all monthly average data collected in a two-year period. For parameters where only daily maximum reporting is required, the 30-day average of all samples taken the month should be used to calculate the two-year rolling average, even if the 30-day average is not required as part of the DMR reporting. DMR

reporting of the two-year rolling average result begins once the reporting requirement has been in place for a two-year period (i.e. 24 months) regardless of the permit term and the frequency that the facility discharges. Ongoing reporting is required across permit terms when: 1) a two-year rolling average permit limit/reporting requirement has been in place; and/or 2) two years' worth of monthly average data exists. The two-year rolling average continues to "roll" when a permit is renewed and reissued and data from the previous permit term should be used to calculate the two-year rolling average.

Note: If a renewed and reissued permit contains a compliance schedule to meet a more stringent two-year rolling average, do not use data from the previous permit term to calculate the two-year rolling average. In this case, data collection starts upon the effective date of the renewed and reissued permit.

To calculate a two-year rolling average, add the current monthly average to the previous 23 monthly averages and divide the total by 24. This methodology continues on a rolling basis as long as the two-year rolling average reporting and/or effluent limit applies (i.e., in the first monitoring period use data from month 1 to month 24, in the second monitoring period use data from month 2 to month 25, then month 3 to month 26, etc.).

Example: Two year rolling average = $(MA_C + MA_1 + MA_2 + ... + MA_{23}) \div \mathbf{24}$

MA_C = Current monthly average
MA_1 = First prior month's monthly average
MA_2 = Second prior month's monthly average
MA_{23} = Twenty third prior month's monthly average

If there is not a discharge from the facility in a month during a two-year period **do not use zero (0) to represent the data for that month in the calculation**, but do consider that month as part of the two-year time span. The denominator in the two-year rolling average calculation will change to represent the actual number of months there was a discharge.

Example: Two year rolling average = $(30 + 45 + ... + 25) \div \mathbf{22}$

Current monthly average= 30 mg/l
First prior month's monthly average= no discharge
Second prior month's monthly average= no discharge
Third prior month's monthly average=45 mg/l
Twenty third prior month's monthly average= 25 mg/l

For ammonia, two-year rolling averages may be set up for individual months, or may be grouped together for several months. When individual months have a specific limit, calculate the two-year rolling average as follows:

Example: Permit is effective January 2014 and there is a two-year rolling average limit specific to the month of January.

January 2014 DMR – Nothing to Report
January 2015 DMR – Two-year rolling average = $(MA_C + MA_1) \div \mathbf{2}$

MA_C = January 2015 monthly average
MA_1 = January 2014 monthly average

January 2016 DMR – Two-year rolling average = $(MA_C + MA_1) \div \mathbf{2}$
MA_C = January 2016 monthly average
MA_1 = January 2015 monthly average

Where several months are grouped together and have the same limit, calculate the two-year rolling average as follows:

Example: Permit is effective January 2014 and there is a two-year rolling average limit specific to the months of January, February, and June.

January, February, June 2014 DMR- Nothing to Report
1st Reportable DMR – June 2015 DMR:
Two-year rolling average = $(MA_C + MA_1 + MA_2 + MA_3 + MA_4 + MA_5) \div \mathbf{6}$
MA_C = June 2015 monthly average
MA_1 = February 2015 monthly average
MA_2 = January 2015 monthly average
MA_3= June 2014 monthly average
MA_4 = February 2014 monthly average
MA_5 = January 2014 monthly average
2nd Reportable DMR – January 2016 DMR:
Two-year rolling average = $(MA_C + MA_1 + MA_2 + MA_3 + MA_4 + MA_5) \div \mathbf{6}$
MA_C = January 2016 monthly average
MA_1 = June 2015 monthly average
MA_2 = February 2015 monthly average
MA_3= January 2015 monthly average
MA_4 = June 2014 monthly average
MA_5 = February 2014 monthly average

Calculation of Rolling Statistics – Regulation 85
Methods used to calculate rolling median and 95th percentile values for comparison to Regulation 85 effluent limits.

Definitions
Median: the value lying at the midpoint of observed values.

95th percentile: the value below which 95% of values fall.

Regulation 85 effluent limits statistics[2]: the regulation identifies two types of rolling statistics, as follows:

Annual median: the median of all samples taken in the most recent 12 calendar months. This value is to be calculated on a running or rolling basis of the last 12 months, regardless of calendar year or permit term.

Annual median calculation: the median value is identified by sorting all values (collected in the most recent 12 months) from smallest to largest. You then count the

[2] References: Regulation 85.5(1)(A)(III) AND 85.6(1)(B)

total number of values you have. The middle number in your list of values is the median. If the total number is odd (e.g., 15 values), determine the number in the middle (e.g., the value at position 8). If the total number of values is even (e.g., 12), determine the pair of values at the middle (e.g., values at positions 6 and 7). Add the pair together, then divide by 2 to determine the median value.

The median value can be calculated in Microsoft Excel© or Google Sheets© using the "MEDIAN" function.

95th percentile: the 95th percentile of all samples taken in the most recent 12 calendar months. This value is to be calculated on a running or rolling basis of the last 12 months, regardless of calendar year or permit term.

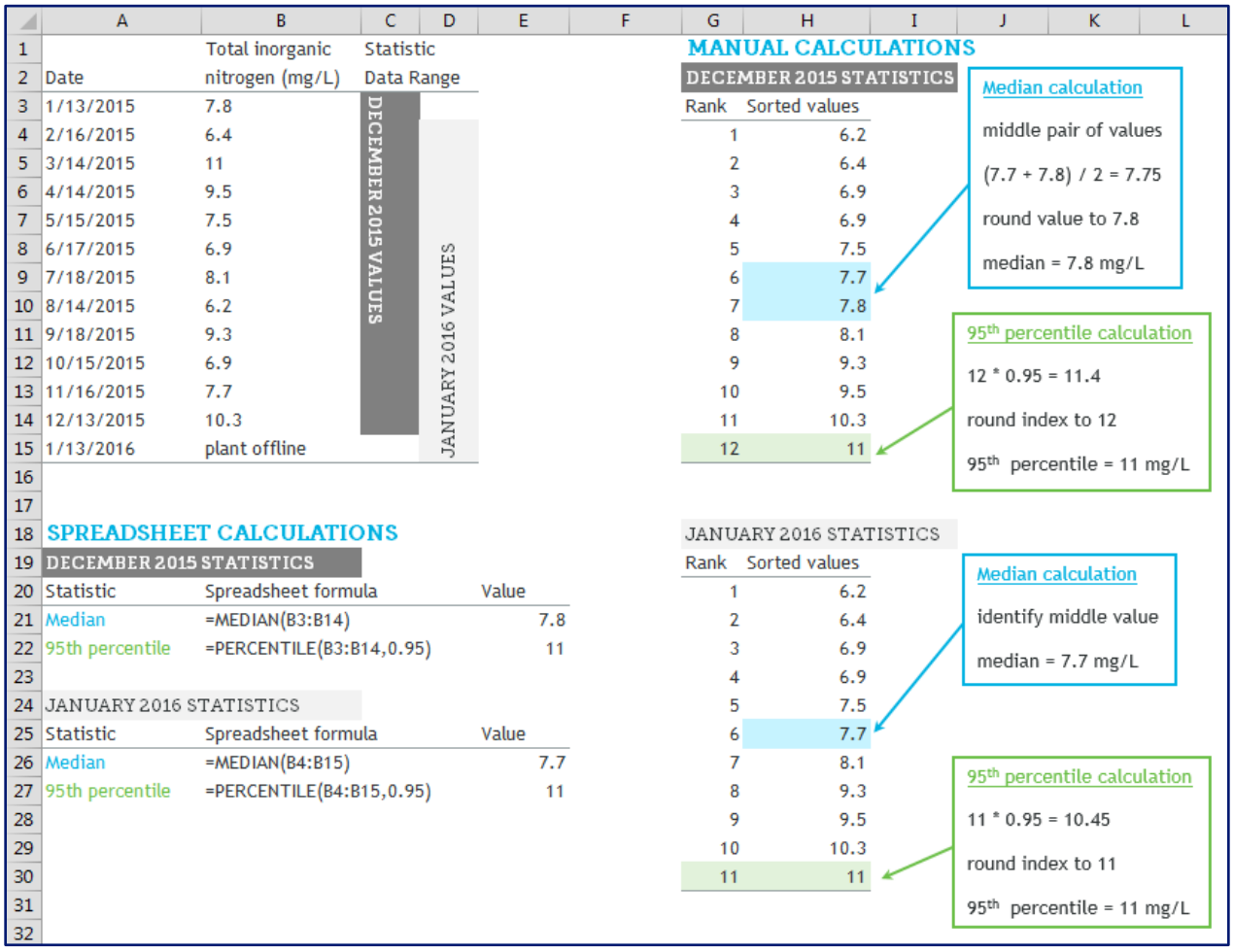
Note that all values collected within the last 12 calendar months should be included when calculating the statistic. For example, if you sample weekly, then you will have 4 values per month and 48 total samples per 12-month period.

95th percentile calculation: when calculating a percentile manually (without a computer), the 95th percentile is determined using the nearest rank method. Start by sorting all values (collected in the most recent 12 months) from smallest to largest. You then count the total number of values you have. You then multiply the total number of values by 0.95 to obtain the index position (e.g., 12 x 0.95 = 11.4), rounding up if the index is not a whole number (in this case to 12). Starting from the smallest value, count up to the value in the index position (e.g., the 12th value); this value is your approximate 95th percentile.

When calculating a percentile using a computer, the 95th percentile is determined using (most frequently) a linear interpolation method. The median value can be calculated in Microsoft Excel© or Google Sheets© using the "PERCENTILE" function.

Rolling Statistic: each statistic is a rolling number, so each statistic you calculate is based on the data for the 12 most recent months. For example, the January statistic would include data from the previous February through January. The February statistic would be calculated from data from the previous March through February.

Example calculations:



	A	B	C	D	E	F	G	H	I	J	K	L
1		Total inorganic	Statistic				MANUAL CALCULATIONS					
2	Date	nitrogen (mg/L)	Data Range				DECEMBER 2015 STATISTICS					
3	1/13/2015	7.8	DECEMBER 2015 VALUES				Rank	Sorted values				
4	2/16/2015	6.4					1	6.2				
5	3/14/2015	11					2	6.4				
6	4/14/2015	9.5					3	6.9				
7	5/15/2015	7.5					4	6.9				
8	6/17/2015	6.9					5	7.5				
9	7/18/2015	8.1					6	7.7				
10	8/14/2015	6.2					7	7.8				
11	9/18/2015	9.3					8	8.1				
12	10/15/2015	6.9					9	9.3				
13	11/16/2015	7.7					10	9.5				
14	12/13/2015	10.3					11	10.3				
15	1/13/2016	plant offline		JANUARY 2016 VALUES			12	11				
16												
17												
18	SPREADSHEET CALCULATIONS						JANUARY 2016 STATISTICS					
19	DECEMBER 2015 STATISTICS						Rank	Sorted values				
20	Statistic	Spreadsheet formula			Value		1	6.2				
21	Median	=MEDIAN(B3:B14)			7.8		2	6.4				
22	95th percentile	=PERCENTILE(B3:B14,0.95)			11		3	6.9				
23							4	6.9				
24	JANUARY 2016 STATISTICS						5	7.5				
25	Statistic	Spreadsheet formula			Value		6	7.7				
26	Median	=MEDIAN(B4:B15)			7.7		7	8.1				
27	95th percentile	=PERCENTILE(B4:B15,0.95)			11		8	9.3				
28							9	9.5				
29							10	10.3				
30							11	11				
31												
32												

Quality Assurance/Quality Control Techniques

Quality assurance/quality control measures demonstrate the accuracy (how close the real result you are) and precision (how reproducible your results are) of a sample. Quality assurance activities are taken to maintain the quality of a given program. Quality control activities are the steps taken to determine the effectiveness of sampling and analytical procedures. The following are examples of common QA/QC activities:

Field Duplicates (also referred to as field replicates): Field duplicates provide an indication of the precision of the sampling procedure. These are separate samples that are collected from the same location as close as possible to the same point in time and analyzed in the same manner. The analytical results from field duplicates are averaged into calculations and reported on the DMRs.

Field Splits: Split samples provide an indication of the precision of analytical techniques and procedures between laboratories. A field split is a second, ideally identical, aliquot of an environmental sample (i.e., one field sample poured into two sample containers while in the field). Field splits are analyzed by separate laboratories and are not averaged into calculations

for DMR reporting purposes. Field splits are to be used as a quality assurance measure for laboratories and specific analytical techniques. If there is a large discrepancy within split sample results, the sample should be recollected and re-analyzed.

Lab Duplicates (also referred to as lab replicates): Lab duplicates provide an indication of the precision of internal laboratory measurements. Lab duplicates are subsamples of a routine sample that is divided into separate containers in the lab and analyzed using the same analytical method (often side by side). Lab duplicates are not averaged into calculations reported on the DMRs.

APPENDIX A – DIVISION CONTACTS

Compliance Questions and Problems		
Stormwater & Sand and Gravel Mining/Processing		
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Industrial Wastewater		
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Marah Green (general permits, except COG500000, COG604000, COR400000, COR900000)	303.692.2841	marah.green@state.co.us
Whole Effluent Toxicity (WET)		
Jacob Dyste	303.692.3290	jacob.dyste@state.co.us
DMR Questions		
For Copies of Blank DMRs		
Leslie Simpson	303.692.3611	leslie.simpson@state.co.us
For Discrepancies Between DMR and Permit		
Veronica Kenkel	303.692.3604	veronica.kenkel@state.co.us
NetDMR Inquiries		
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Permit Questions		
General Line	303.692.3517	
CEOS Help Desk	303.691.7919	
Records Requests / Copies of Previously Submitted DMRs		
Records Center	303.692.3565	cdphe.wqrecordscenter@state.co.us

APPENDIX B – CHANGELOG

Revision Date	Change(s) Made

April 2025	- Made improvements to accessibility throughout, including:
	  o Made colors contrast compliant
	  o Made font size at least 11 point
	  o Removed underlined and italicized text
	- Fixed broken hyperlinks throughout
	- Added NODI Code guidance for PFAS monitoring only required once per permit term in Table 2 (p. 16)
	- Added PFAS Sum Guidance (p. 24)
	- Clarified MWAT calculation (p. 27)
	- Added changelog (p.34/Appendix B)