January 2017

Discharge Monitoring Report Manual

Kentucky Department for Environmental Protection, 300 Sower Blvd., Frankfort, KY 40601

This manual was produced in partnership with the University of Kentucky's Environmental Research and Training Laboratories (ERTL), Kentucky Division of Water (DOW) and the Kentucky Division of Compliance Assistance (DCA). This manual serves as a guidance document and is not a substitute for reading and understanding your Kentucky Pollutant Discharge Elimination System (KPDES) permit. For questions regarding this manual, please contact DCA at 502-782-6189 or envhelp@ky.gov.

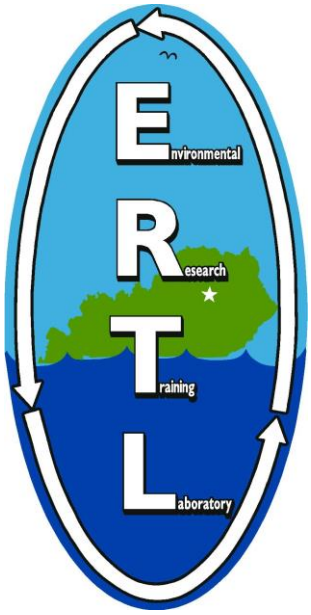


TABLE OF CONTENTS

Chapter 1: Overview 4

Chapter 2: DMR Instructions 5

Table 2.1 NODI Codes 6

Image 2.1 Example NetDMR 10

Image 2.2 Example NetDMR 11

Image 2.3 Example NetDMR 12

Chapter 3: Frequently Asked Questions (FAQ) 13

Table 3.1 Significant Digits 16

Table 3.2 MRL Ranges 19

APPENDICES

Appendix A: Calculations 21

Appendix B. Example DMR Data and Calculation Sheet 24

Appendix C. Example Completed DMR 25

Image C.1 Example Completed DMR 25

Image C.2 Example Completed DMR 26

Image C.3 Example Completed DMR 27

Appendix D. Frequency of Analysis Code and Description 28

Appendix E. Sample Type Codes 33

Appendix F. Record of Changes 36

CHAPTER 1: OVERVIEW

KPDES

The Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) which requires every facility discharging into receiving waters of the U.S. to possess a permit. These NPDES permits set limitations on how much of a given pollutant can be released into a body of water. Under the NPDES program, monitoring of the effluent is the responsibility of the permit holder. The data collected during monitoring is recorded on a document referred to as a discharge monitoring report (DMR), which must be submitted to the state by the permit holder. The Kentucky Division of Water (DOW) uses this data to determine compliance with permit conditions. DOW is also responsible to the U.S Environmental Protection Agency (EPA) for overseeing the system permittees use to enter and submit their DMR data (NetDMR). This data is used by the EPA for oversight over the Kentucky Permitting Program. DOW is responsible for the administration of the NPDES program in the Commonwealth of Kentucky, and, as a result, the program in Kentucky is referred to as the KPDES.

PURPOSE

This document is designed to serve as a guide that explains DMR required calculations, rounding parameter specific reporting and DMR submission using NetDMR. Since each DMR contains limits and information specific to an individual permit holder, the responsible persons completing the DMR need to be certain they are submitting the correct monitoring period and outfall, and that the information displayed in NetDMR matches their permit before submitting the DMR. The examples provided in this document will be similar to DMRs in NetDMR, but differ in the limits for each parameter as these are specific to each facility.

HOW TO USE THIS DOCUMENT

Throughout this document, you will see references to circles and boxes containing numbers and/or letters like the ones shown here:

The circles appear in Chapter 2 and the boxes are in Appendices B and C. They link the explanation or definition to an example. Appendix A shows the calculations. Appendix B shows the data and calculations sheet that was used to complete the example completed DMR located in Appendix C. Reference Appendix B to see the source of the data in the example and reference Appendix C to see how the data would be entered onto the NetDMR.

CHAPTER 2: DMR INSTRUCTIONS

All DMRs shall be submitted to DOW using NetDMR. The DMRs available in NetDMR should correspond to your permit requirements. Check to make sure that the parameters, limits and monitoring requirements displayed in NetDMR match your KPDES permit. The permit is a legally binding document, and the DMR in NetDMR must reflect the permit conditions. If there are discrepancies, contact the Surface Water Permits Branch, Permit Support Section, within the Division of Water at netdmr@ky.gov with the issue so corrections can be made as warranted.

Step by step instructions, FAQs and website addresses for the NetDMR program are available at **http://water.ky.gov/permitting/Pages/netDMRInformation.aspx**.

Effective January 1, 2015, all analysis must be performed by a certified laboratory with the exception of laboratories performing only field analysis. Field-only laboratories must be certified by January 1, 2016.

PARTS OF A DMR

In Chapter 2, the numbers below correspond to the numbers found in these circles (#) on the example NetDMR screenshots on the following pages. Within the explanations of these various parts, there are references that correspond with circles that contain both letters and numbers. These also correspond with the example NetDMR. For example, reference 11. Sample Measurements corresponds with (11) on the example NetDMR. Q1 in the explanation of number 11 corresponds with (Q1) on the example NetDMR.

1. **KPDES Permit ID, Permittee and Facility Information** – Verify that the correct name and mailing address are shown in NetDMR. For corrections, email netDMR@ky.gov with the permit number and required corrections.

2. **Permitted Feature** – The permitted feature refers to a particular pipe or outfall. Each DMR corresponds to a specific outfall. Make sure you are recording data for the correct outfall on your DMR.

3. **Discharge** – The discharge refers to the specific limits set and discharge type for the outfall. Each DMR corresponds to a specific outfall and limit set. Make sure you are recording data for the correct outfall and limit set on your DMR.

4. **Monitoring Permit** – The first and last days of the monitoring period are displayed in MM/DD/YYYY format. Since the monitoring period for each permit is different, the permittee should check to be certain that the monitoring period specified on the DMR corresponds to the permit requirement.

5. **DMR Due Date** – Displays the date by which the DMR submission must be completed to avoid violation of the permit requirements.

6. **Status** – Displays the status of the DMR submission (Not Saved, NetDMR Validated, Submitted, etc.).

7. **Name/Title of Principal Executive Officer or Authorized Agent** – The name, title and phone number of the responsible person should be filled out in the header section of the DMR.

8. **No Data Indicator (NODI)** – If there is no discharge or data available for the entire DMR for the monitoring period, select the appropriate NODI code from the dropdown box. No other entries for parts 9-17 are required.

TABLE 2.1 NODI CODES

1	Wrong Flow
2	Operation Shutdown
3	Special Report Attached
4	Discharge to Lagoon/Groundwater
5	Frozen Conditions
7	No Influent
9	Conditional Monitoring – Not Required This Period
A	General Permit Exemption
B	Below Detection Limit/No Detection
C	No Discharge
D	Lost Sample/Data Not Available
E	Analysis Not Conducted/No Sample
F	Insufficient Flow for Sampling
G	Sampling Equipment Failure
H	Invalid Test
I	Land Applied
J	Recycled – Water-Closed System
K	Natural Disaster
L	DMR Received but not Entered
M	Laboratory Error
N	Not Constructed
Q	Not Quantifiable
S	Fire Conditions
V	Weather Related
W	Dry Lysimeter/Well
X	Parameter/Value Not Reported

It is important to note that you should never force a discharge in order to take a sample during the monitoring period. The intent of the monitoring program is to be representative of the operations of the wastewater treatment system.

9. **Parameters** – Verify that each parameter specified in the permit is listed one per box in the far left column of the form. For corrections, please contact the DOW Surface Water Permitting Branch, Permit Support Section at netdmr@ky.gov.

10. **DMR Value Qualifier** – Equals (=) will pre-populate in the qualifier dropdown box unless you manually choose a different option. Select the appropriate DMR value qualifier from the dropdown list based on the values reported by your laboratory.

11. **Sample Measurement** – Enter the analytical data for each parameter under "Quantity or Loading" and "Quality or Concentration" in the appropriate box result in NetDMR. "Quantity or Loading" values are referred to as Q1 and Q2 and "Quality or Concentration" values are referred to as C1, C2 and C3 in NetDMR.
    - Average is normally the arithmetic average (geometric mean for bacterial parameter) of all sample measurements for each parameter obtained during the monitoring period. **pH is never averaged.**
    - Maximum and minimum are normally the high and low measurements obtained during the monitoring period.
    - If the result of only one measurement is being reported, enter the same value in EVERY column for which limitations are specified in the permit.
    - ALL sample measurement spaces available must be completed. A value box cannot be left blank (see 18. Edit Check Errors below).
    - You cannot enter both a value and a NODI code for a required parameter and value type (see 18. Edit Check Errors below).

12. **Permit Requirement** –Verify each permit requirement for each parameter under Quality and Quantity as specified in the permit. For corrections, please contact the DOW Surface Water Permitting Branch, Permit Support Section Permit Support Section at netdmr@ky.gov.

13. **Units** – The parameter units are prepopulated based on your permit requirement. Unless the units are changed, there is no need to fill in this column. If your laboratory report shows different units than listed on your permit, you must convert to the permit listed units (preferred) or select the appropriate units from the dropdown list.

14. **Number of Exceptions (NO. EX)** – The "NO. EX" field indicates how many times a limit was not met during the monitoring period. To complete this field, count and then enter the number of sample measurements that does not conform to the maximum (or minimum) limit for the parameter for both "Quantity or Loading" and "Quality or Concentration". Do not count the results for the average "Quantity or Loading" and "Quality or Concentration" as exceptions.

a. Some permits and parameters specify the maximum (or minimum) results as “weekly averages” instead of a “daily maximums”. In these instances, count and report the number of “weekly averages” that did not conform to the permit limit, not the number of individual sample results.

15. **Frequency of Analysis** – The frequency of analysis is prepopulated based on your permit requirement. Unless the frequency is changed, there is no need to fill in this column. If you did not collect the permit required number of samples, select the actual frequency of sampling during the monitoring period from the dropdown list. For example, enter “99/99” for continuous monitoring, “1/7” for once per week, “1/30” for once per month and “1/90” for once per quarter. See the Appendix D for frequency of analysis codes and explanations.

16. **Sample Type** – The sample type is prepopulated based on your permit requirement. Unless the sample type is changed, there is no need to fill in this column. If a different sampling method was used, select the method used to collect the actual sample from the dropdown list. See Appendix E for sample type codes and explanations.

17. **Parameter Specific NODI Code -** – If there is no data available for the specific parameter for the monitoring period, select the appropriate NODI code from the dropdown box. See Table 1: NODI Codes.

18. **Edit Check Errors** – If any “errors” are listed, they must be either corrected or acknowledged by clicking the checkbox under acknowledge. Examples of errors are a DMR value exceeding the permit limit, entering both a value and a no discharge code for a required parameter, or leaving a required parameter blank. The error listing will provide the parameter and specific value (Q1, Q2, C1, C2, C3) on which the error occurred.

19. **Comments and Explanation of Any Violations** – This block is required to explain and discuss any permit violations that occurred during the monitoring period. If you require additional space, please attach a brief explanation. The explanation in both the comment box and any attachments should detail the cause and corrective actions taken in addition to referencing each violation by date.

20. **Add Attachment** – This feature is used to attach additional files that may be relevant to your DMR such as laboratory reports, data, letters of explanation, etc. Most document formats (PDF, MS WORD, MS EXCEL, JPG) are acceptable.

21. **Report Last Saved By** – This information shows who last edited and saved information on the DMR. It will not update when the DMR is submitted if no edits are made prior to DMR submission.

22. **Save Options** – When you have finished making changes to the DMR, you must save your edits. Click Save and Continue if you want to remain on the current DMR and screen, or Save and Exit if you want to return to the available DMR listing screen. Once the DMR is saved, the DMR Status (6) and Edit Check Errors (18) will update to display the current status and potential required edits. Saving the DMR does not complete your permit required DMR submission.

23. **Sign and Submit** – After the DMR has been saved, if all edit check errors (18) have been cleared or acknowledged and the DMR status (6) shows NetDMR validated, the DMR can be submitted. Submitting the DMR completes your permit required DMR submission.

IMAGE 2.1 EXAMPLE NETDMR

DMR/COR Search Results

DMRs 1 through 3 of 3

Next Step(s)	Permit ID	Facility	Permitted Feature	Discharge #	Discharge Description	Monitoring Period End Date	DMR Due Date	Status	COR Received Date	Include in Batch Submit (Check AllOn Page / Clear All)	Include in Batch COR Download (Check AllOn Page / Clear All)	Update NODI (Check AllOn Page / Clear All)
Correct DMR Go	KY0001400	EXAMPLE PERMITTEE	001	001-1	FILTER BACKWASH WATER	01/31/14	02/28/14	Signed & Submitted	02/27/14		☐	☐
Correct DMR Go	KY0001400	EXAMPLE PERMITTEE	001	001-1	FILTER BACKWASH WATER	02/28/14	03/28/14	NetDMR Validated	03/05/14	☐	☐	☐
Edit DMR Go	KY0001400	EXAMPLE PERMITTEE	001	001-1	FILTER BACKWASH WATER	03/31/14	04/28/14	Ready for Data Entry				☐

Collapse Header

Permit

Permit ID: (1) KY0001400

Major: ☐

Permittee: Example Permittee

Permittee Address: (1) 123 Main St, Anytown, KY 00000

Facility: (1) EXAMPLE PERMITTEE

Facility Location: (1) 123 MAIN ST, ANYTOWN, KY 00000

Permitted Feature: (2) 001 - External Outfall

Discharge: (3) 1 - FILTER BACKWASH WATER

Report Dates & Status

Monitoring Period: (4) From 01/01/14 to 01/31/14

DMR Due Date: (5) 02/28/14

Status: Not Saved (6)

Considerations for Form Completion

0011-MONITORING FOR TOTAL RECOVERABLE ALUMINUM IS ONLY REQUIRED IF ALUMINUM-BASED COAGULANTS ARE USED; TOTAL RECOVERABLE IRON REQUIRED ONLY IF IRON-BASED COAGULANTS ARE USED; PHOSPHORUS REQUIRED ONLY IF PHOSPHATES ARE USED IN THE DISTRIBUTION SYSTEM, AND IF DISTRIBUTION SYSTEM WATER IS PRESENT IN THE DISCHARGE.

Principal Executive Officer

First Name: (7) John

Last Name: (7) Smith

Title: President

Telephone: 123-456-7890

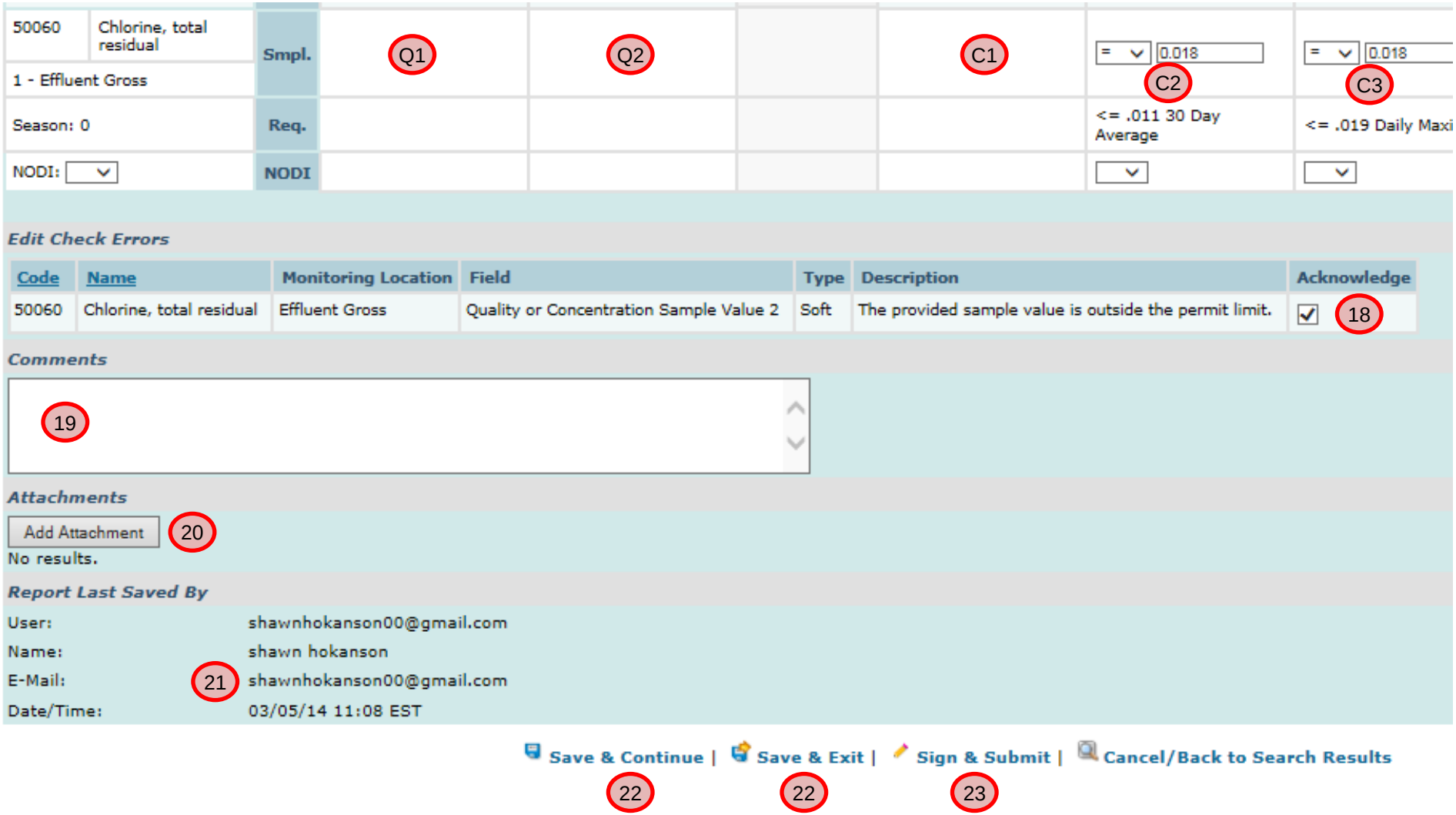
No Data Indicator (NODI)

Form NODI: (8)

IMAGE 2.2 EXAMPLE NETDMR

Parameter		NODI	Quantity or Loading			Quality or Concentration				# of Ex.	Freq. of Analysis	Smpl. Type
Code	Name	List	Value 1 (Q1)	Value 2 (Q2)	Units	Value 1 (C1)	Value 2 (C2)	Value 3 (C3)	Units		List	List
00400	pH	Smpl.			10	= 7.8 (11)	10	= 7.8 (11)	SU List		01/30	GR
1 - Effluent Gross (9)												
Season: 0		Req.			12	>= 6 Minimum	12	<= 9 Maximum	Standard Units		Monthly	GRAB
NODI: (17)		NODI										
00530	Solids, total suspended	Smpl.					= 29	= 29	mg/L List		01/30	GR
1 - Effluent Gross												
Season: 0		Req.					<= 30 30 Day Average	<= 50 Daily Maximum	Milligrams per Liter		Monthly	GRAB
NODI:		NODI										
00665	Phosphorus, total [as P]	Smpl.					= 0.21	= 0.21	mg/L List		01/30	GR
1 - Effluent Gross												
Season: 0		Req.					Req Mon 30 Day Average	Req Mon Daily Maximum	Milligrams per Liter		Monthly	GRAB
NODI:		NODI										
00980	Iron, total recoverable	Smpl.							mg/L List		01/30	GR
1 - Effluent Gross												
Season: 0		Req.					Req Mon 30 Day Average	Req Mon Daily Maximum	Milligrams per Liter		Monthly	GRAB
NODI: 9		NODI					9	9				
01104	Aluminum, total recoverable	Smpl.					= 3.4	= 3.4	mg/L List		01/30	GR
1 - Effluent Gross												
Season: 0		Req.					Req Mon 30 Day Average	Req Mon Daily Maximum	Milligrams per Liter		Monthly	GRAB

IMAGE 2.3 EXAMPLE NETDMR



CHAPTER 3: FREQUENTLY ASKED QUESTIONS (FAQ)

1. **What if the person responsible for filling out the DMR has changed or the facility has changed ownership? Should this be corrected on the DMR form itself?** If the person responsible for the DMR has changed, a notification should be sent to the DOW Surface Water Permits Branch, Permit Support Section so that person's NetDMR account can be disabled. The new party will need to create an account in NetDMR and request the Signatory or Edit role as appropriate.

   If the facility has changed ownership, a "Change in Ownership Certificate" form must be filled out and submitted to the DOW Surface Water Permits Branch, Permit Support Section, listed in the back of this document. The Change in Ownership Certification Form can be found at http://water.ky.gov/permitting/KPDES%20Documents/.

2. **How do I report total residual chlorine if my analyzer's minimum reporting limit is 0.02 mg/L?** For Total Residual Chlorine (TRC) where all samples are below minimum reporting level (MRL), enter "B" in the appropriate boxes. Where multiple samples contain a mixture of values, some of which are below MRL, the value of 0.00 mg/L shall be substituted for the B sample measurements when conducting averaging calculations. DOW accepts the use of TRC analyzers with a reporting limit of 0.02 mg/L. Please note the instrument must be capable of seeing down to 0.02 mg/L for this practice to be acceptable. If the MRL is any value > 0.02 mg/L then the MRL would then become a detect and that value used in calculating the average. Please see examples 1 and 2 below.

Example 1

Sample Number	Analysis Results	Avg. Calculation	DMR Values
1	<0.02 mg/L	0.00	
2	0.10 mg/L	0.10	
3	0.20 mg/L	0.20	
4	<0.04 mg/L	0.04	
Maximum			0.20 mg/L Maximum
Average		0.08 mg/L	0.08 mg/L Average

Example 2

Sample Number	Analysis Results	DMR Values
1	<0.02 mg/L	
2	<0.02 mg/L	
3	<0.02 mg/L	
4	<0.02 mg/L	
Maximum		B for Maximum
Average		B for Average

3. **How do I report for bacteriological analysis (fecal coliform and *E. coli*)?** You should report the nearest whole number multiplied by the dilution factor. If a sample contains colonies that are too numerous to count, it is your responsibility to conduct enough dilutions in these tests to obtain a discrete ("real number") value. Reporting a non-numerical value, such as TNTC, is unacceptable because you cannot average non-numerical values. For samples in which subsequent dilutions do not produce a discrete value and are too numerous to count, report results as 60,000. You would also use this value in the geometric mean calculation.
    - For *E. coli* ONLY, never use the inequality symbols < or > when reporting a result. A numeric value or text, such as NODI codes, should be reported in the appropriate sample measurement boxes. The inequality should be reported/explained in the comments section.
    - Report a whole number always for bacteriological analysis and NEVER USE DECIMALS.
    - In the geometric mean calculations, the colony count cannot be 0. You must use the whole number value of 1 in place of 0 because mathematical laws state that you cannot use 0 in geometric mean calculations.

4. **What are monthly and weekly averages?**
    - **Monthly Averages:** The average of all sample measurements taken during the calendar month.
    - **Weekly Averages:** The average of all sample measurements taken during the weeks as described below.
        - Week 1: Calendar days 1-7
        - Week 2: Calendar days 8-14
        - Week 3: Calendar days 15-21
        - Week 4: Calendar says 22-28
    - Extra days beyond day 28 are eliminated from the weekly average calculation, but should be included in the monthly average calculation**.**

5. **How do I calculate percent removal for BOD and TSS?** The monthly average percent removal is calculated using the monthly average influent concentration and the monthly average effluent concentration. See Appendix A for calculation example.

6. **What is the difference between arithmetic and geometric average?**
    - **Arithmetic average:** An arithmetic average is calculated by adding numbers and then dividing by the total number of figures. For example, the average of numbers 2, 3, 4 is 9 divided by 3, with the result of 3.

- **Geometric average:** Geometric average is a different calculation than arithmetic averages. Geometric averages are used to calculate bacteriological averages. A calculator capable of performing logarithmic functions is required.
- See Appendix A for example calculations.

7. **What are the guidelines for rounding numbers?** Rounding is the last step in calculating results. Only round the final result, not at each step of the calculation. Then follow the following rules:
   a. **Rule 1.** Select the digit you want to round and look to the right side of it. If the digit is 0,1,2,3 or 4, do not change the rounding digit. When rounding whole numbers, all digits that are on the right-hand side of the requested rounding digit will become 0. When rounding numbers involving decimals, all digits to the right of the rounded number are dropped.

1247 = 1200

   b. **Rule 2.** Select the digit you want to round and look to the right of it. If the digit is 6, 7, 8 or 9, your rounding digit rounds up by one number. When rounding whole numbers, all digits that are on the right-hand side of the requested rounding digit will become 0. When rounding numbers involving decimals, all digits to the right of the rounded number are dropped.

1270 = 1300

   c. **Rule 3.** Select the digit you want to round and look to the right of it. If the digit is 5, your rounding digit rounds up or down to the even number. When rounding whole numbers, all digits that are on the right-hand side of the requested rounding digit will become 0. When rounding numbers involving decimals, all digits to the right of the rounded number are dropped.

1350 = 1400

1250 = 1200

8. **What are the guidelines for significant digits?** Significant figures are critical when reporting scientific data.
    a. ALL non-zero numbers (1, 2, 3, 4, 5, 6, 7, 8, 9) are ALWAYS significant.
        - The number 123.678 has 6 significant digits.

    b. ALL zeroes between non-zero numbers are ALWAYS significant.
        - The number 103 has 3 significant digits.

    c. ALL zeroes which are SIMULTANEOUSLY to the right of the decimal point AND at the end of the number are ALWAYS significant.
        - The number 111.0 has 4 significant digits.

    d. ALL zeroes which are to the left of a written decimal point and are in a number > 10 are ALWAYS significant.
        - The number 100.4 has 4 significant digits.

    e. Zeroes that do nothing but set a decimal point are not significant
        - The number 100 has 1 significant digit.
        - The number 0.001 has 1 significant digit.

    Note: In NetDMR, if the final significant digit is zero, NetDMR will not retain the final digit.
        - 3.200 will be displayed as 3.2; 0.010 will be displayed as 0.01.

TABLE 3.1 SIGNIFICANT DIGITS

Parameter	**Maximum Significant Digits**	**Examples**
Flow, MGD	4	0.266; 9.587; 45.23; 123.8
Biochemical Oxygen Demand (BOD) mg/L	Nearest whole number	6; 18; 258
Total Suspended Solids (TSS) mg/L	Nearest whole number	7; 22; 859
Ammonia Nitrogen, mg/L	3	0.233; 1.25; 24.8
Dissolved Oxygen, mg/L	2	0.99; 6.8; 12
pH, standard units	3	6.80; 7.22; 10.5
Fecal Coliform/*E. coli*, colonies/100ml	Nearest whole number multiplied by the dilution factor	3; 243; 1200; 27,000
Total Residual Chlorine, mg/L	4	0.008; 0.010; 0.277; 1.002
Metals, often mg/L or µg/L, but units may vary	4	0.004; 0.062; 0.186; 2.348
Organic Chemicals	Case-by-case basis	Organic Chemicals

9. **What results do I report if I sample more frequently than required by my permit?** Your permit lists the minimum frequency for taking and analyzing samples. Therefore, as long as samples are taken using correct methodology and analytical procedures and they are from places specified on your permit, they must be included in the calculation of DMR values. You should report this change in sampling frequency in the "Frequency of Analysis" block on the DMR form.

10. **How do I correct an error on a DMR that I have submitted?** To correct an error prior to submitting the DMR, simply edit and save the information, then complete submission. If you have already submitted the DMR, go to that DMR in NetDMR, and select GO next to the Correct DMR action. Make only the required changes to correct the error(s), save the changes, and resubmit the DMR. Once submitted, only the changed information is updated, and you will see two dates listed in the COR Received Date Submission Date column on the DMR/COR Search Results Screen.

11. **Who can sign a DMR form?** The description of who can act as a signatory official on the DMR form is found in your permit and also in regulations at 40 CFR 122.22, 40 CFR 403.6(a)(2)(ii), 401 KAR 5:060 Section 4. Generally, such a person is a responsible corporate official (for example, an officer of the corporation), partner, sole proprietor, or for a government entity, this person is a principal executive officer or ranking elected official. See your permit for a complete description.

12. **Can signatory authority be delegated?** Yes, a duly authorized signatory official may also sign DMR forms. Permission must be given in writing from an authorized signatory official using the NetDMR Subscriber Agreement.

13. **What is the difference between a grab, composite and 24 hour composite sample?**
    - **Grab sample:** (a) For purposes of 401 KAR 5:045, a single instantaneous portion of the effluent; or (b) For purposes of 401 KAR 5:050 to 401 KAR 5:080, a single effluent portion that is not a twenty-four (24) hour composite sample.
    - **Composite sample**: (a) Not less than four (4) effluent portions collected at regular intervals over a period of eight (8) hours and combined in proportion to flow; (b) Not less than four (4) combined equal volume effluent portions collected over a period of eight (8) hours at intervals proportional to flow; (c) An effluent portion collected continuously over a period of twenty-four (24) hours at a rate proportional to the flow; or (d) An

effluent portion consisting of a minimum of four (4) combined equal volume grab samples taken approximately two (2) hours apart.

- **Twenty-four hour (24) composite sample:** Not less than twelve (12) effluent portions collected at regular intervals over a period of twenty-four (24) hours which are composited in proportion to flow.

14. **Who can perform the analysis required on my KPDES permit?** Effective January 1, 2015, all analysis must be performed by a certified laboratory with the exception of laboratories performing only field analysis, those laboratories must be certified by January 1, 2016.

15. **How do I calculate flow if I do not have a flow meter?** In the event a facility does not have a flow meter, a scientifically defensible method must be used to measure flow. These methods, though less accurate than a flow meter, can include the use of a bucket and timer or geometric calculations. Visit http://water.epa.gov/type/rsl/monitoring/vms51.cfm for more information. If you are not sure if the flow measurement method you would like to use is scientifically defensible, you can submit a description of your proposed method to DOW for their review and approval.

16. **How do I report results that are non-detects?** The following examples describe in detail how to report analysis results in correlation with your method's calibration range relative to the minimum reporting level and the KPDES Permit established required reporting limit.
    - **Required Reporting Limit (RRL):** The minimum limit that can be reported and meet the limits established within the KPDES Permit.
    - **Minimum Reporting Level (MRL):** The lowest concentration of an analyte that can be reliably quantified that is greater than the method detection limit, of sufficient accuracy and precision to meet the intended purpose, and acceptable quality control criteria for the analyte at this concentration are met. This defined concentration can be no lower than the concentration of the lowest calibration standard for that analyte or, in non-calibrated methods, the limitations defined by the equipment and volumes utilized.
    - **Alternate Required Reporting Limit (ARRL):** The minimum limit DOW has established that must be obtained by laboratories in order to demonstrate the analytical method is sufficiently sensitive to satisfy the limits established within the KPDES Permit.

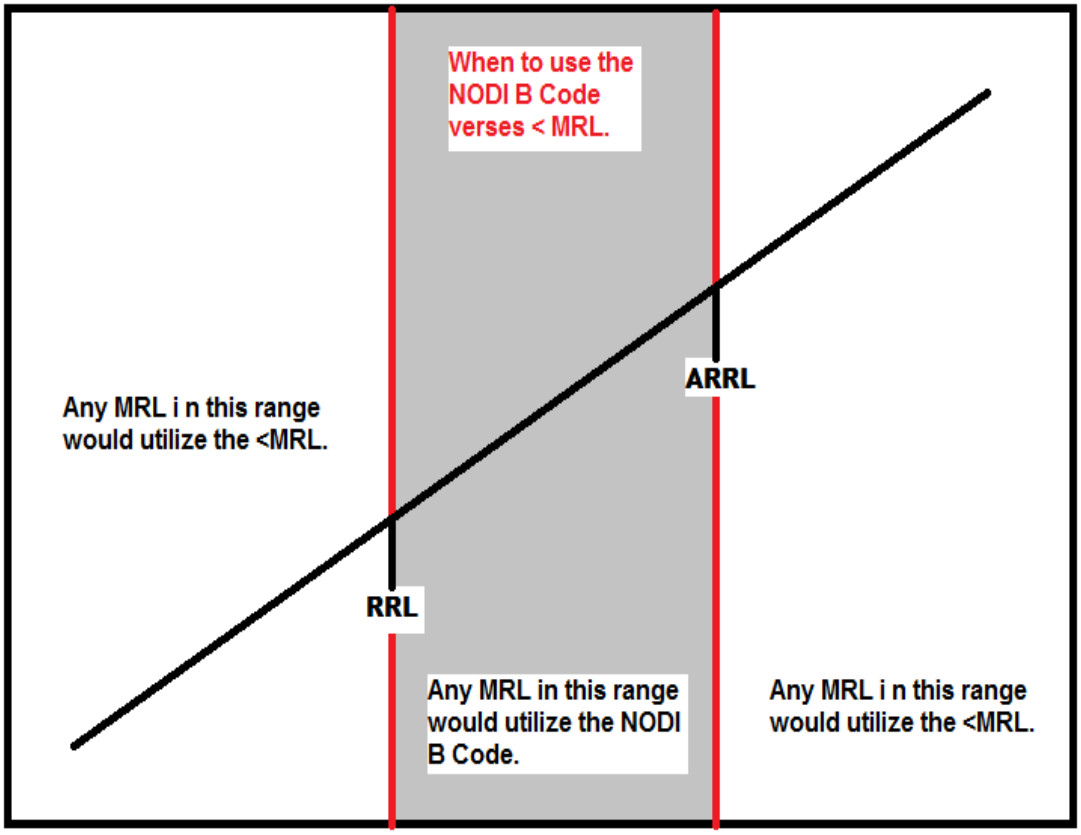
- The "B" code should only be used when the laboratory's MRL is below the ARRL and the reported results are below the laboratory's MRL.

- Note: Any result that is reported as a "B" when used to calculate an average will be considered a "0" in the calculation.

- When the laboratory's MRL is above the ARRL and the result is below the laboratory's MRL, report the result as "< MRL" (e.g. < 0.01mg/L).

- When the laboratory's MRL is below the RRL and the result is below the laboratory's MRL, report the result as "< MRL" (e.g. < 0.01mg/L).
  - **Note:** Any result that is reported as a "< MRL" when used to calculate an average will be considered a detect at the MRL in the calculation (e.g. < 0.01mg/L becomes 0.01mg/L in the calculation).
  - **Note:** If the laboratory believes that the established limits are below what is achievable under normal laboratory conditions they should contact Kentucky's Laboratory Certification Program to establish an ARRL that will be specific for that laboratory and permitted outfall.
  - **Note:** If the laboratory's MRL is elevated due to a demonstrated matrix effect the result is reported as "< MRL" and the reason for the elevated MRL is described in the comments field of the DMR.

TABLE 3.2 MRL RANGES



17. **When do I submit my DMR?** It is important to submit your DMR on time. DMRs must be submitted in NetDMR on or before the 28th day of the month following the monitoring period end date. Ex: Monthly DMR 01/01/14-01/31/14, due by February 28th; Quarterly DMR 01/01/14-03/31/14, due by April 28th.

18. **Need Additional Information?** Contact the Division of Compliance Assistance

- Environmental Compliance Assistance Program
  Telephone: 502-782-6189; E-mail: **envhelp@ky.gov**
  Webpage: **http://dca.ky.gov/complianceassistance/Pages/default.aspx**

- Operator Certification Program
  Telephone: 502-564-0323; E-mail: **envhelp@ky.gov**
  Webpage: **http://dca.ky.gov/certification/Pages/default.aspx**

APPENDIX A: CALCULATIONS

1. BOD and TSS Percent Removal

$$\% \text{ Removal} = \frac{\text{Monthly Avg. Influent Conc.} - \text{Monthly Avg. Effluent Conc.}}{\text{Monthly Avg. Influent Conc.}} \times 100$$

4

$$99\% = \frac{194 - 2}{194} \times 100$$

Formula for Calculating a Geometric Average

$$\frac{\text{Log}(FCB_1) + \text{Log}(FCB_2) + \text{Log}(FCB_3) + \ldots \text{Log}(FCB_n)}{n} = \text{Log}_{avg}$$

$\text{Antilog}(\text{Log}_{avg})$ = Geometric Averages

Where: Log(FCB) = logarithm of bacteriological colony count
n = number of samples

30-Day Geometric Average for Fecal Coliform **(30-day data taken from Appendix B)**

=(Log(184)+Log(25)+Log(10)+Log(14)+Log(3)+Log(6)+Log(10)+Log(7)+Log(3)+Log(3)+Log(3)+Log(3))/12

= 0.9015

Now take $10^{0.9015}$ to get the Geometric Average, which equals 7.970369

2. Geometric Mean Calculations

7-Day Geometric Average for Fecal Coliform (weekly data taken from Appendix B)

Period	Calculation	Geometric Average
July 1-7	$=10^{((\text{Log}(184)+\text{Log}(25)+\text{Log}(10))/3)}$	35.83048
July 8-14	$=10^{((\text{Log}(14)+\text{Log}(3)+\text{Log}(6))/3)}$	6.31636
July 15-21	$=10^{((\text{Log}(10)+\text{Log}(7)+\text{Log}(3))/3)}$	5.943922
July 22-28	$=10^{((\text{Log}(3)+\text{Log}(3)+\text{Log}(3))/3)}$	3

11

12

Also See FAQ 3.7

Also

3. **Five-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)** – The monthly average concentration is the arithmetic mean of all sample values measured throughout the month. Similarly, the weekly average concentration is the arithmetic mean of all samples recorded throughout a calendar week. The highest weekly average for the calendar month must be recorded on the DMR. See Appendices B and C for the monthly average.

5

Also See FAQ 3.7

In this case, the weekly Raw $CBOD_5$ averages were calculated as follows using data from Appendix B:

Period	Calculation	Weekly Average (mg/l)
July 1-7	(144+184+123)/3	150.3
July 8-14	(135+205+142)/3	160.7
July 15-21	(146+180+129)/3	151.7
July 22-28	(138+153+153)/3	148.0

6

4. **Calculating $CBOD_5$ Loading** – Calculating average weekly and monthly loading is done by dividing the total load (week or month) by the number of days in the week or month in which the sample was taken. These values are to be reported in pounds/day (lb/day). The following equations may be used to make this conversion:

Quantity (lb/day) = Flow (MGD) x conc. (mg/l) x 8.34

Monthly Average $CBOD_5$ Loading (RAW)

=((3.17*144*8.34)+(3.21*184*8.34)+(2.89*123*8.34)+(2.87*135*8.34)+(2.97*205*8.34)+(2.78*142*8.34)+(2.73*146*8.34)+(2.96*180*8.34)+(2.77*129*8.34)+(3.35*138*8.34)+(3.17*153*8.34)+(3.11*153*8.34))/12

7

=3826.3 lb/day

Period	Calculation	Weekly Average BOD_5 Loading (RAW) (lb/day)
July 1-7	=((3.17*144*8.34)+(3.21*184*8.34)+(2.89*123*8.34))/3	3899.2
July 8-14	=((2.87*135*8.34)+(2.97*205*8.34)+(2.78*142*8.34))/3	3867.1
July 15-21	=((2.73*146*8.34)+(2.96*180*8.34)+(2.77*129*8.34))/3	3582.6
July 22-28	=((3.35*138*8.34)+(3.17*153*8.34)+(3.11*153*8.34))/3	3956.3

8

Total Suspended Solids (TSS), Ammonia and Nitrogen quality and quantity calculations should follow the same procedures as above.

5. Calculating Flow

9

- The **<u>average monthly flow</u>** is an arithmetic mean that includes all the daily flows in a given month.

10

- The maximum daily flow that occurs during the month must also be recorded on the DMR.

APPENDIX B. EXAMPLE DMR DATA AND CALCULATION SHEET

NAME OF TREATMENT PLANT _____ 1 COUNTY _____ MONTH OF: July 2008

KPDES PERMIT NUMBER PLANT CAPACITY 4.4 MGD RECEIVING STREAM

DATE	TOTAL FLOW (MILLION GALLONS)	RAW SEWAGE: GRIT REMOVED (CUBIC FEET)	RAW SEWAGE: SCREENINGS (CUBIC FEET)	pH: RAW	pH: FINAL	SETTLEABLE SOLIDS (mg/L): RAW	SETTLEABLE SOLIDS (mg/L): PRIMARY EFFLUENT	SETTLEABLE SOLIDS (mg/L): FINAL EFFLUENT	DISSOLVED OXYGEN (mg/L): STREAM ABOVE	DISSOLVED OXYGEN (mg/L): FINAL EFFLUENT	DISSOLVED OXYGEN (mg/L): STREAM BELOW	SUSPENDED SOLIDS (mg/L): RAW	SUSPENDED SOLIDS (mg/L): PRIMARY EFFLUENT	SUSPENDED SOLIDS (mg/L): FINAL EFFLUENT	5 DAY CBOD (mg/L): RAW	5 DAY CBOD (mg/L): PRIMARY EFFLUENT	5 DAY CBOD (mg/L): FINAL EFFLUENT	ACTIVATED SLUDGE: RETURN GAL/DAY X 1000	ACTIVATED SLUDGE: RETURN MLSS x1000	ACTIVATED SLUDGE: WASTED MLVSS X 1000	AERATION BASIN: DISSOLVED OXYGEN (mg/L)	AERATION BASIN: MLSS (mg/L) x 1000	AERATION BASIN: MLVSS (mg/L) X 1000	AERATION BASIN: SETTLED SLUDGE VOLUME 30 MIN.	AERATION BASIN: SETTLED SLUDGE VOLUME 60 MIN.	SLUDGE HANDLING: RAW GALLONS X 1000	SLUDGE HANDLING: RAW % DRY SOLIDS	SLUDGE HANDLING: RAW % VOLATILE SOLIDS	SLUDGE HANDLING: HAULED % DRY SOLIDS	SLUDGE HANDLING: HAULED % VOLATILE SOLIDS	SLUDGE HANDLING: HAULED WITHDRAWN GALLONS X 1000	FINAL: NH3-N (mg/L)	FINAL: FECAL COLIFORM (COLONIES/100ML)	FINAL: Phosphorus mg/L	FINAL: Cadmium, Total Recoverable	FINAL: Hardness as CaCO3	FINAL: Chromium, Hexavalent	FINAL: Cyanide, Free (Amenable)	FINAL: Mercury, Total Recoverable
1	3.17	36	36	8.0	7.6	13.0		0.0		8.8		187		4	144		3	1.49	10.5	32.9	4	4.4		250								63	0.28	184						
2	3.21			7.3	7.8	11.0		0.0		8.3		194		2	184		3	2	11.42	32.9	3.8	4.865		300								31.5	0.055	25						
3	3.24			8.0		10.0		0.0										2.11	10.18	32.9	3.8	4.87		300								37.8								
4	3.38	36	36	8.0		12.0		0.0										2.17	11.54	39.4	5	5.31		300								6.3								
5	2.93			7.4		9.0		0.0										1.97	10.77	39.4	4.9	5.635		310																
6	2.89			7.6		7.0		0.0				151		3	123		3	1.91	9.14	39.4	5.2	5.45		310									0.055	10						
7	2.78			7.3	7.9	10.0		0.0		7.6								2.05	13.25	32.9	3.8	5.77		300								37.8			0.248					
8	2.87	36	36	7.3		8.0		0.0				171		3	135		3	2.05	11.66	32.9	4.6	5.475	3.52	300					2.04	68	37.8	0.055	14	0.16	0.2	222	0.01	0.01	
9	2.97			7.3	7.8	9.0		0.0		7.6		223		2	205		3	1.81	16.02	32.9	3.7	5.82		300								12.6	0.22	3	0.142					
10	2.78			7.2	7.8	10.0		0.0		7.7		218		2	142		3	1.92	12.1	32.9	3.9	5.82		300								25.2	0.055	6						
11	2.85	36	36	7.4	7.8	13.0		0.0		8.2								1.95	15.54	39.4	3.7	5.82		300								31.5								
12	2.96			7.4		7.0		0.0										2.01	13.58	32.9	5.2	6.105		330																
13	3.27			7.3		15.0		0.0										1.98	14.72	46	4.6	6.02		330																
14	2.8			7.3		15.0		0.0										1.76	13.78	39.4	4.3	6.165	4.155	350					2.21	62	37.8								
15	2.73	36	36	7.4		12.0		0.0				197		2	146		3	1.6	13.82	26.3	4.5	5.84		320								37.8	0.28	10						
16	2.96			7.3	7.7	10.0		0.0		8.0		246		2	180		3	2.06	10.54		4.9	6.365		350								56.7	0.22	7	0.181					
17	2.77			7.5	7.8	15.0		0.0		7.6		159		2	129		3	1.95	14.23	32.9	4.3	6.29		350								37.8	0.28	3						
18	2.68	36	36	7.5	7.7	14.0		0.0		7.9								1.5	12.87	32.9	4.4	5.76		320																
19	2.73			7.4		12.0		0.0										2.06	9.9	32.9	4.4	5.28		300																
20	3.22			7.5		10.0		0.0										1.84	9.9	32.9	3.9	6.635		300																
21	3.4			7.4		8.0		0.0										1.88	8.32	39.4	4.9	4.32		250								31.5								
22	3.35	36	36	7.4		10.0		0.0	1			193		2	138		3	2.04	14.47	52.6	4.4	5.92		300								44.1	0.055	3						
23	3.17			7.4	7.7	10.0		0.0				192		2	153		3	1.97	14.11	39.4		5.765	3.835	300					2.09	60	37.8	0.055	3	0.06					
24	3.11			7.6	7.7	15.0		0.0		7.2		196		2	153		3	2.05	12.82	46	4.3	5.66		300								37.8	0.055	3						
25	2.9	36	36	7.2	7.6	10.0		0.0		10.0								1.78	12.09	46	4.9	5.765		300								37.8								
26	2.75			7.5		8.0		0.0		7.8								2.03	8.96	52.6	5.1	6.145		340																
27	2.97			7.2		11.0		0.0										2.17	11.38		4.7	6.44		350																
28	3.07			7.3		9.0		0.0										2.05	13.86		4.6	6.725		400								31.5								
29	2.83	36	36	7.4		9.0		0.0					4			5		2	13.07	39.4	4.4	6.48		350								44.1								
30	3.51			7.5		9.0		0.0										1.79	13.47	39.4	4.2	6.84	4.59	400								56.7								
31	4.46			7.2		6.0		0.0										2.09	18.4	46	4	5.22		280								31.5								
Tot.	94.71	324	324															60.04														806.4								
Avg.	3.055	36	36			10.5				8.1		194		2	153		3	1.937	12.46	38.03	4.413	5.773	4.025	315.8					2.113	63.33	36.65	0.14	8	0.16	0.20	#####	0.01	0.01	

2

9 10 12

RESIDENTIAL
COMMERCIAL
INDUSTRIAL

INDUSTRIAL WASTE POPULATION EQUIVALENT

29097	22882	23529		7626
FLOW	CBOD	TSS	OPERATOR	CERT. NO.

TOTAL NUMBER OF SEWER CONNECTIONS 0

SEWER CONNECTIONS 0 X 4 = 0 SEWERED POPULATION

PLANT TELEPHONE

APPENDIX C. EXAMPLE COMPLETED DMR

IMAGE C.1 EXAMPLE COMPLETED DMR

No Data Indicator (NODI)

Form NODI:

Use FORM NODI if all parameters have the same no discharge code

Showing Parameters 1 - 10 of 14 1 2

Note the DMR has more than one screen to fill out

Parameter		NODI List	Quantity or Loading			Quality or Concentration				# of Ex.	Freq. of Analysis List	Smpl. Type List
Code	Name		Value 1	Value 2	Units	Value 1	Value 2	Value 3	Units			
00300	Oxygen, dissolved [DO]	Smpl.				= 7.2 (1)			mg/L List		03/07	GR
1 - Effluent Gross												
Season: 0		Req.				>= 7 Instantaneous Minimum			Milligrams per Liter		Three Per Week	GRAB
NODI:		NODI										
00300	Oxygen, dissolved [DO]	Smpl.				= 7.2			mg/L List		03/07	GR
Z - Instream Monitoring												
Season: 0		Req.				Req Mon Instantaneous Minimum			Milligrams per Liter		Three Per Week	GRAB
NODI:		NODI										
00400	pH	Smpl.				= 7.6 (2)		= 7.9 (3)	SU List		03/07	GR
1 - Effluent Gross												
Season: 0		Req.				>= 6 Minimum		<= 9 Maximum	Standard Units		Three Per Week	GRAB
NODI:		NODI										
00530	Solids, total suspended	Smpl.	= 58	= 77	lb/d List		= 2 (4)	= 3	mg/L List		03/07	CP
1 - Effluent Gross												
Season: 0		Req.	<= 1126 Monthly Average	<= 1689 Maximum Weekly Average	Pounds per Day		<= 30 Monthly Average	<= 45 Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:		NODI										
00530	Solids, total suspended	Smpl.	= 4,853	= 5,184	lb/d List		= 194 (4)	= 204	mg/L List		03/07	CP
G - Raw Sewage Influent												
Season: 0		Req.	Req Mon Monthly Average	Req Mon Maximum Weekly Average	Pounds per Day		Req Mon Monthly Average	Req Mon Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:		NODI										

IMAGE C.2 EXAMPLE COMPLETED DMR

00610 Nitrogen, ammonia total [as N]	Smpl.	= 3	= 6	lb/d List		= 0.14	= 0.16	mg/L List		03/07	CP
1 - Effluent Gross												
Season: 2	Req.	<= 188 Monthly Average	<= 263 Maximum Weekly Average	Pounds per Day		<= 5 Monthly Average	<= 7 Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:	NODI										
00610 Nitrogen, ammonia total [as N]	Smpl.	= 502	= 522	lb/d List		= 20	= 22	mg/L List		03/07	CP
G - Raw Sewage Influent											
Season: 0	Req.	Req Mon Monthly Average	Req Mon Maximum Weekly Average	Pounds per Day		Req Mon Monthly Average	Req Mon Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:	NODI										
50050 Flow, in conduit or thru treatment plant	Smpl.	= 3.055 **9**	= 4.46 **10**	MGD List						99/99	CN
1 - Effluent Gross											
Season: 0	Req.	Req Mon 30 Day Average	Req Mon Daily Maximum	Million Gallons per Day						Continuous	CONTIN
NODI:	NODI										
50060 Chlorine, total residual	Smpl.							mg/L List		03/07	GR
1 - Effluent Gross											
Season: 0	Req.					<= .012 Monthly Average	<= .019 Daily Maximum	Milligrams per Liter		Three Per Week	GRAB
NODI:	NODI					B	B				
74055 Coliform, fecal general	Smpl.					= 8 **12**	= 36 **11**	#/100mL List		03/07	GR
1 - Effluent Gross											
Season: 0	Req.					<= 200 30 Day Geometric	<= 400 7 Day Geometric	Number per 100 Milliliters		Three Per Week	GRAB
NODI:	NODI										

Edit Check Errors

No results.

Comments

Attachments

Add Attachment

No results.

IMAGE C.3 EXAMPLE COMPLETED DMR

Showing Parameters 11 - 14 of 14 ◀◀ ◀ 1 2 ▶ ▶▶

Parameter Code	Parameter Name	NODI List	Quantity or Loading Value 1	Quantity or Loading Value 2	Quantity or Loading Units	Quality or Concentration Value 1	Quality or Concentration Value 2	Quality or Concentration Value 3	Quality or Concentration Units	# of Ex.	Freq. of Analysis List	Smpl. Type List
80082	BOD, carbonaceous, 05 day, 20 C	Smpl.	= 75	= 80	lb/d List		= 3	= 3	mg/L List		03/07	CP
1 - Effluent Gross												
Season: 0		Req.	<= 375 Monthly Average	<= 563 Maximum Weekly Average	Pounds per Day		<= 10 Monthly Average	<= 15 Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:		NODI										
80082	BOD, carbonaceous, 05 day, 20 C	Smpl.	= 3,826 **7**	= 3,956 **8**	lb/d List		= 153 **5**	= 161 **6**	mg/L List		03/07	CP
G - Raw Sewage Influent												
Season: 0		Req.	Req Mon Monthly Average	Req Mon Maximum Weekly Average	Pounds per Day		Req Mon Monthly Average	Req Mon Maximum Weekly Average	Milligrams per Liter		Three Per Week	COMPOS
NODI:		NODI										
80091	BOD, carb-5 day, 20 deg C, percent removal	Smpl.				= 98			% List		01/30	CA
K - Percent Removal												
Season: 0		Req.				>= 85 Monthly Minimum			Percent		Monthly	CALCTD
NODI:		NODI										
81011	Solids, suspended percent removal	Smpl.				= 99 **4**			% List		01/30	CA
K - Percent Removal												
Season: 0		Req.				>= 85 Monthly Minimum			Percent		Monthly	CALCTD
NODI:		NODI										

Edit Check Errors

No results.

Review and acknowledge errors and over limit values here if needed.

Comments

Enter comments here, if needed.

Attachments

Add Attachment

No results.

Attach document files (lab reports, letters of explanation, monthly operating reports) here, if desired.

Report Last Saved By

User:	shawnhokanson00@gmail.com
Name:	shawn hokanson
E-Mail:	shawnhokanson00@gmail.com
Date/Time:	03/28/14 8:28 EDT

Save & Continue | Save & Exit | Sign & Submit | Cancel/Back to Search Results

APPENDIX D. FREQUENCY OF ANALYSIS CODE AND DESCRIPTION

Frequency Of Analysis Code	Frequency Of Analysis Description
01/01	Daily
01/02	Once Every 2 Days
01/03	Once Every 3 Days
01/04	Once Every 4 Days
01/05	Once Every 5 Days
01/06	Once Every 6 Days
01/07	Weekly
01/08	Once Every 8 Days
01/09	Once Every 9 Days
01/10	Once Every 10 Days
01/11	Once Every 11 Days
01/12	Once Per 12 Days
01/13	Once Every 13 Days
01/14	Once Every 2 Weeks
01/21	Once Every 3 Weeks
01/28	Once Every 4 Weeks
01/2Y	Once Every 2 Years
01/30	Monthly
01/3H	Once Every 3 Hours
01/4M	Once Every 4 Months
01/4Y	Once Every 4 Years
01/5M	Once Every 5 Months
01/5Y	Once Every 5 Years
01/60	Once Every 2 Months
01/6M	Once Every 6 Months
01/7M	Once Every 7 Months
01/8H	Once Every 8 Hours
01/90	Quarterly
01/99	Instantaneous
01/9M	Once Every 9 Months
01/BA	Once Per Batch
01/BD	Once Before Discharge
01/DD	Once Per Daily Discharge
01/DM	Once Per Monthly Discharge
01/DQ	Once Every Dsc Quarter
01/DS	Once Per Discharge

Frequency Of Analysis Code	Frequency Of Analysis Description
01/DW	Once Per Weekly Discharge
01/EP	Once Every Permit Cycle
01/EV	Once Every Event
01/FA	Once Per Facility
01/FY	Once/First Year of Permit
01/HR	Once Every Hour
01/HV	Once Every Harvest
01/OC	Once Every Occurance
01/PT	Once Per Permit Term
01/RN	Once Per Rn Event
01/RP	Once Per Prt Period
01/SH	Once Per Shift
01/SN	Once Per Season
01/US	Once per Use
01/WD	Once Every Weekday
01/WL	Once Per Well
01/YR	Annual
02/01	Twice Per Day
02/02	Twice Per Week
02/07	Twice Every Week
02/12	Twice Every 12 Days
02/30	Twice Per Month
02/5Y	Twice Every 5 Years
02/6M	Twice Every 6 Months
02/90	Twice Every Quarter
02/BA	Twice Per Batch
02/DA	2 Days Every Week
02/DD	Twice Per Drawdown
02/DM	Twice Every Month
02/DS	Twice Per Discharge
02/DW	Twice Every Discharge Week
02/HR	Twice Every Hour
02/PT	Twice Per Permit Term
02/RP	Twice Per Rpt Period
02/SH	Twice Every Shift
02/SN	Twice Every Season
02/YR	Twice Per Year
03/01	Three Per Day
03/05	Three Every 5 Days
03/07	Three Per Week

Frequency Of Analysis Code	Frequency Of Analysis Description
03/08	Three Every 8 Days
03/12	3 Per 12 Hours
03/30	Three Per Month
03/5Y	Three Every 5 Years
03/6M	Three Every 6 Months
03/90	Three Every Quarter
03/BA	Three Every Batch
03/DS	Three Per Discharge
03/DW	3 Days Every Week
03/PT	Three Per Permit Term
03/RP	Three Per Prt Period
03/SN	Three Per Season
03/YR	Three Per Year
04/01	Four Per Day
04/07	Four Per Week
04/30	Four Per Month
04/90	4 Times Every Quarter
04/BA	Four Every Batch
04/HR	4 Times Every Hour
04/RP	Four Per Rpt Period
04/SN	Four Per Season
04/YR	Four Per Year
05/01	Five Per Day
05/07	Weekdays
05/08	Five Every 8 Days
05/30	5 Times Every Month
05/90	Five Every Quarter
05/BA	Five Every Batch
05/DS	Five per Discharge
05/DW	5 Days Every Week
05/WK	Five Per Week
06/01	Six Per Day
06/07	Six Every Week
06/30	Six Per Month
06/90	Six Every Quarter
06/SH	6 Every Operating Shift
06/YR	Six Per Year
07/14	7 Per 2 Weeks
07/30	7 Times Every Month
07/WD	Weekly When Discharging

Frequency Of Analysis Code	Frequency Of Analysis Description
07/WK	Seven Per Week
08/01	Eight Every Day
08/30	Eight Every Month
08/BA	Eight Every Batch
09/01	Nine Per Day
09/30	Nine Per Month
09/99	See Permit
10/30	Ten Per Month
11/30	11 Per Month
12/01	12 Per Day
12/30	Twelve Per Month
13/30	13 Per Month
14/30	14 Per Month
15/30	15 Per Month
16/01	16 Per Day
16/30	16 Per Month
17/30	17 Per Month
18/01	18 Per Day
18/30	18 Per Month
19/30	19 Per Month
20/30	Twenty Per Month
21/30	21 Per Month
22/30	22 Per Month
23/30	23 Per Month
24/01	Hourly
24/30	24 Per Month
24/HR	24 Times Every Hour
25/30	25 Per Month
26/30	26 Per Month
27/30	27 Per Month
28/30	28 Per Month
29/30	29 Per Month
48/01	Every 1/2 Hour
60/HR	60 Per Hour
66/66	Wpc Plan
77/77	Contingent
88/88	Cleaning
999	See Comments
99/99	Continuous
AL/EV	All Events

Frequency Of Analysis Code	Frequency Of Analysis Description
AL/RN	Alternating Run
AT1DS	At First Discharge
BI/WK	Biweekly
CL/OC	Chlorination/Occurances
DL/DS	Daily When Discharging
ED/WL	End Of Well
ESTMT	Estimate
EV/2H	Every 2 Hours
HR/DS	Hourly When Discharging
LF/PT	Life Of The Permit
MEASD	Measured
MM/WD	Monthly When Discharging
N/A	Not Applicable
N/R	Not Reported
REPRT	Report
UPREQ	Upon Request
WH/DS	When Discharging
WH/MN	Measured When Monitor
XX/XX	Frequency as Reported

APPENDIX E. SAMPLE TYPE CODES

Sample Type Code	Sample Type Description
01	COMP-1
02	COMP-2
03	COMP-3
04	COMP-4
05	COMP-5
06	COMP-6
08	COMP-8
10	COMP10
12	COMP12
16	COMP16
1H	AVG-1H
20	COMP20
22	BATCH
24	COMP24
28	COMP28
2H	AVG-2H
2Y	2YRAVG
3G	3GR/HR
3R	3GR24H
4C	4DA24C
4G	4GR24H
4H	AVG-4H
4R	4 Grabs/8 Hours
5G	5GR45M
72	COMP72
8R	8 Grabs/24 Hours
96	COMP96
99	COMPWK
999	See Comments
AH	HRDALL
BA	BAILED
C3	CS0-3
C6	CS0-60
C9	CS0-90
CA	CALCTD
CG	CMPGRB
CN	CONTIN
CP	COMPOS

Sample Type Code	Sample Type Description
CR	CK REQ
CS	CORSAM
CT	CERTIF
CU	CURVE
DA	DAILAV
DS	DISCRT
ES	ESTIMA
FI	FLOIND
G2	GRAB-2
G3	GRAB-3
G4	GRAB-4
G5	GRAB-5
G6	GRAB-6
G7	GRAB-7
G8	GRAB-8
G9	GRAB-9
GA	GRAB AVG
GC	CNTGRB
GH	5GR24H
GM	GRAB10
GR	GRAB
IM	Immersion
IN	INSTAN
IS	INSITU
IT	Immersion Stabilization
MC	MATHCL
MF	MAGFLO
MP	MATHCP
MS	MEASRD
MT	METER
NA	NOT AP
NR	NOTRPT
OC	OCCURS
PC	PMPCRV
PF	PARFLU
PL	PMPLOG
R4	RNG-4A
RA	RAGUAGE
RC	RCORDR
RD	RNG-DA

Sample Type Code	Sample Type Description
RE	RECORD
RF	RCDFLO
RG	RANG-C
RM	Real Time Monitoring (RTM)
RP	REPRES
RT	RCOTOT
S1	SQBTH1
S2	SQBTH2
S3	SQBTH3
SB	Sequencing Batch Reactor
SC	SC0-15
SD	SURFSP
SE	SNGLES
SM	SUMATN
SR	SGLRDG
SS	STAT-SH
ST	STATIC
TI	TIMEMT
TM	TOTALZ
UN	UNKNOWN
VI	VISUAL
WE	WEIR

APPENDIX F. RECORD OF CHANGES

8/10/09

- On page 8, an explanation was added indicting why inequalities should not be reported on the DMR form.
- On page 8, the description for item number 10 was revised to provide additional clarification.
- On page 11, the instructions for reporting values that are too numerous to count was changed from 99,999 to 60,000.

1/15/15

- On page 6, a brief explanation of the wastewater laboratory certification was added.
- On page 19, clarification was added to better to describe how to calculate flow without a flow meter.
- The entire document was significantly altered to reflect that paper DMR's are no longer accepted by the Division of Water and to provide the new NetDMR instructions.

1/9/17

- On page 5, introduction to Chapter 2, all DMRs are now required to be submitted in NetDMR.
- Updates to phone numbers and street address.