SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY
Basic Information

S/EP: _____

System Name: **PWSID #:** **Month:** **Year:**

Day	Operating Hours	Pumpage		Fluoride		Raw Turbidity	Settled Turbidity (individual sedimentation basin)							
	Number of hours the plant operated per day.	Raw in 1,000s Gallons Per Day	To System in 1,000s Gallons Per Day	Quantity Used in lbs. or gal. (circle one)	Finished Water (mg/L)	Highest Daily Reading (NTU)	Highest Daily Reading Sed 1 (NTU)	Highest Daily Reading Sed 2 (NTU)	Highest Daily Reading Sed 3 (NTU)	Highest Daily Reading Sed 4 (NTU)				
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30														
31														
Total														
Avg														
Max														
Min														

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT

IOWA DNR WATER SUPPLY

Disinfection/Oxidation Data Page

S/EP: _____

System Name: **PWSID #:** **Month:** **Year:**

Day	Chlorine Residual								CT	Chlorine Dioxide	Chlorite	Quantity of Disinfectant Used		
	Source/Entry Point (S/EP)				Distribution									
	Number of Tests Taken*	Specify Free (F) or Total (T)	Lowest Measured Residual (mg/L)	Continuous Hours Less than 0.3 mg/L Free or 1.5 mg/L Total	Number of Tests Taken	Lowest Measured Residual (mg/L) Circle One T or F	Number with Undetected Residual	Highest Measured Residual (mg/L)	Ratio of CT Obtained to CT Required***	At S/EP** (mg/L)	At S/EP** (mg/L)	Chlorine Dioxide in lbs. or gals. (circle one)	Chlorine in lbs. or gals. (circle one)	
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Avg														
Max														
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*If continuous monitoring of chlorine is provided, enter "C" in the space provided.

**If chlorine dioxide MRDL of 0.8 mg/L or daily chlorite MCL of 1.0 mg/L is exceeded, then "Chlorine Dioxide/Chlorite Supplemental Monitoring Form" must be completed.

***Must be calculated daily and the ratio of CT Obtained to CT Required must be greater than or equal to 1.0 on a daily basis.

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DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT

IOWA DNR WATER SUPPLY

Turbidity Data Page 1 of

S/EP: _____

System Name: **PWSID #:** **Month:** **Year:**

Day	Combined Filter Effluent			Individual Filter Effluent													
				#1		#2		#3		#5		#6		#7		#8	
	Number of Readings Taken*	Number of Readings >0.3 NTU	Highest Daily Reading (NTU)	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU	Daily Highest (NTU)	# of Consec Results >1.0 NTU
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31																	
Total																	
Avg																	
Max																	
Min																	

*If continuous monitoring of turbidity is provided, measurements must be recorded at equal time intervals at least once every 4 hours.

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY
Summary Page 1 of 2

S/EP: _____

SYSTEM NAME: _____ **PWSID #:** _____ **MONTH:** _____ **YEAR:** _____

1. DISINFECTANT RESIDUAL ENTERING THE DISTRIBUTION SYSTEM:

a. How many times did the residual disinfectant concentration of the water ENTERING the distribution system fall below 0.3 mg/L of free chlorine, or 1.5 mg/L of total chlorine for more than 4 hours? ☐

b. Date and duration of each occurrence:

Date	Duration (Hours)	Date and Time DNR Notified	Person Notified

2. DISINFECTANT RESIDUAL WITHIN THE DISTRIBUTION SYSTEM:

a. Number of times that the disinfectant residual was measured in the system: ☐
b. Number of times the disinfectant residual ***WAS NOT*** measured but where the HPC was measured: ☐
c. Number of times the disinfectant residual was measured but ***NOT*** detected and no HPC was measured: ☐
d. Number of times the disinfectant residual was measured but ***NOT*** detected and the HPC was greater than 500/ml: ☐
e. Number of times where the disinfectant residual ***WAS NOT*** measured and the HPC was greater than 500/ml: ☐

From above Calculate V = [(C+D+E) / (A+B)] x 100%: ☐ %
For last month, V was: ☐ %
(V must not exceed 5% for any two consecutive months)

3. CALCULATION OF MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL):

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes repeat/check samples but excludes specials) or include the S/EP chlorine monitoring. The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Year:												
# of samples used in calc.:												
Monthly Avg.:												

Running Annual Average (RAA)*: ☐

*Should be less than the MRDL of 4.0 mg/L

4. FINISHED WATER TURBIDITY:

a. Number of turbidity readings taken: ☐
b. Number of readings greater than 0.3 NTU: ☐
c. Percent of readings less than or equal to 0.3 NTU: ☐ %
d. Specify date and duration of any turbidity measurement greater than 1 NTU:

Date	Duration (Hours)	Date and Time DNR Notified	Person Notified

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: 0 _____ Grade: 0 Date: _____

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY
Summary Page 2 of 2

5. INDIVIDUAL FILTER EFFLUENT PERFORMANCE SUMMARY

Criteria*	Filter No.							
a. Number of days with event(s) above 1.0 NTU this month								
b. Number of days with event(s) above 1.0 NTU last month								
c. Number of days with event(s) above 1.0 NTU two months ago								
d. Total number of days with event(s) above 1.0 NTU in three months								
e. Number of days with event(s) above 2.0 NTU this month								
f. Number of days with event(s) above 2.0 NTU last month								

***NOTE**: An "event" is considered to be two consecutive turbidity readings taken 15 minutes apart.

For events documented in Item a, system must provide an explanation of the cause of the event, if known.

For the events documented in Item d, a self-assessment report of the filter must be prepared within 14 days unless a CPE is required.

Date Triggered: Date Completed:

For events documented in Item f, a Comprehensive Performance Evaluation by the DNR or its designee is required within 60 days.

6. CALIBRATION/VERIFICATION INFORMATION

a. Calibration

Instrument/Location	Date of Last Calibration
(Example: Hach 1720E/ Filter #1)	*1/1/2018*

b. Verification

	Turbidimeters are used for compliance purposes.
	Turbidimeters were verified WEEKLY between calibrations and were within specification.
	(+/- 10% of the reading assigned to the reference material if greater than 0.5 NTU or +/- 0.05 NTU if less than 0.5 NTU)
	Turbidimeters were out of specification and the following corrective action was taken:

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT

IOWA DNR WATER SUPPLY

Chlorine Dioxide/Chlorite Supplemental Monitoring Page

S/EP: _____

SYSTEM NAME: **PWSID #:** **MONTH:** **YEAR:**

Monthly Chlorine Dioxide Daily MRDL Exceedance

NOTE: This monitoring must follow the written sampling plan.

Event:	1	2	3	4	5	6
Date S/EP sample exceeded 0.8 mg/L:						
Measured Level:						

Event	Following days' results:	Date	Time	Location	Level			
1	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation*
						(Yes/No)	(Yes/No)	(Yes/No)
2	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation
						(Yes/No)	(Yes/No)	(Yes/No)
3	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation*
						(Yes/No)	(Yes/No)	(Yes/No)
4	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation*
						(Yes/No)	(Yes/No)	(Yes/No)
5	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation*
						(Yes/No)	(Yes/No)	(Yes/No)
6	Source/Entry Point:			S/EP		Was MRDL	Non-acute	Acute
	Distribution (3):					Exceeded?	Violation	Violation*
						(Yes/No)	(Yes/No)	(Yes/No)

*For each **Acute** violation event, provide the following information:

Event:	1	2	3	4	5	6
Date & Time DNR Notified:						
Person Notified:						

Monthly Chlorite Daily MCL Exceedance

Did daily S/EP monitoring result exceed MCL of 1.0 mg/L (Yes or No)?	
Were three distribution samples collected the following day (Yes or No)?	
What was the average of the three distribution samples?	
Was a non-acute MCL violation incurred (Yes or No)?	

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT FORM

IOWA DNR WATER SUPPLY SECTION

Total Organic Carbon (TOC) Removal

S/EP: _____

System Name: _____ **PWSID #:** _____ **Month:** _____ **Year:** _____

Note: Systems are required to run one TOC Sample Set every month. Additional space is provided for those systems that do additional sampling

Date	Monthly TOC Sample Set			Actual % TOC Removed *(calculated)*	Step 1 Required % Removal *(from Matrix)*	Step 1 Removal Ratio *(calculated)*	Optional data				Compliance Removal Ratio *(calculated)*
	Raw Alkalinity	Raw TOC	Treated TOC				Step 2 Required % Removal *(attach Step2 form)*	Step 2 Removal Ratio *(calculated)*	ACC # used *(attach ACC form)*	ACC Removal Ratio *(calculated)*	
Avg.											
Max.											
Min.											

MONTHLY TOTAL ORGANIC CARBON REMOVAL SUMMARY

TOC Summary			TOC % Removal Summary		TOC Removal Ratio
Raw Water Alkalinity	Raw Water TOC	Treated Water TOC	TOC % Removal	Requirement	

CALCULATION OF TOTAL ORGANIC CARBON REMOVAL RATIO RUNNING ANNUAL AVERAGE:

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Year:												
Monthly Avg.:												

Running Annual Average (RAA)*:

*Should be greater than or equal to 1.00

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____

Step 1 TOC Removal Requirement MATRIX

Source-water TOC [mg/L] between…		Source-water alkalinity [mg/L as CaCO3] between…					
		0	**to 60**	**>60**	**to 120**	**>120**	**or more**
>2.0	**and 4.0**	35.0%	Removal	25.0%	Removal	15.0%	Removal
>4.0	**and 8.0**	45.0%	Removal	35.0%	Removal	25.0%	Removal
>8.0	**or more**	50.0%	Removal	40.0%	Removal	30.0%	Removal

1.) Look at raw water TOC. If ≤2.0, use ACC 1.

2.) Calculate actual monthly TOC removal.

(1 - (treated water TOC/source water TOC)) x 100

3.) Determine required monthly TOC % removal from matrix.

4.) Calculate the Step 1 removal ratio.

actual monthly TOC % removal/required monthly TOC % removal

5.) Calculate Annual average

Sum of monthly % removal ratio / 12

NOTE: Contact DNR Water Supply Engineering Section before completing any Step 2 Jar Testing.

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT FORM

IOWA DNR WATER SUPPLY

Alternative Compliance Criteria Report Page 1 of 2

S/EP #: _____

System Name: _____ **PWSID #:** _____ **Month:** _____ **Year:** _____

This Alternative Compliance Criteria (ACC) Report is being submitted to request the following ACC: (check one)

#1 ☐ **#2** ☐ **#3** ☐ **#4** ☐ **#5** ☐ **#6** ☐ **#7** ☐ **#8** ☐

#1 **Source Water TOC less than 2.0 mg/L?** (calculated quarterly as a running annual average)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Yr												
Monthly TOC												
RAA												

#2 **Treated Water TOC less than 2.0 mg/L?** (calculated quarterly as a running annual average)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Yr												
Monthly TOC												
RAA												

#3 **Source Water TOC less than 4.0 mg/L?** (calculated quarterly as a running annual average)
AND Source Water Alkalinity over 60 mg/L (as CaCO3)? (calculated quarterly as a running annual average)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Yr												
Monthly TOC												
RAA TOC												
Monthly Alkalinity												
Avg. **RAA Alkalinity**												

Max.

Min.

Yearly Average TTHM: ☐ **mg/L** **Yearly Average HAA5:** ☐ **mg/L**

ATTACH COPY OF COMPLIANCE REPORT FOR DISINFECTION BY-PRODUCTS (TTHM AND HAA5)

#4 **TTHM and HAA5 no greater than 0.040 mg/L and 0.030 mg/L, respectively?**

Yearly Average TTHM: ☐ **mg/L** **Yearly Average HAA5:** ☐ **mg/L**

ATTACH COPY OF COMPLIANCE REPORT FOR DISINFECTION BY-PRODUCTS (TTHM AND HAA5)

AND only chlorine is used in the whole plant and distribution system.

I certify that for the last 12 months, only free chlorine was used as a disinfectant for primary disinfection and for maintenance of a residual in the distribution system.

Certified Operators Signature: _____ Certification #: _____ Date: _____

 # 5 **Source water SUVA less than or equal to 2.0 L/mg-m?** (calculated quarterly as a running annual average)
(Source water SUVA is the ultraviolet light absorption at 254 nanometers divided by the dissolved organic carbon concentration in the source water before any treatment of any kind. Measure monthly.)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month/Year												
Monthly SUVA												
RAA SUVA												

#6 **Treated water SUVA less than or equal to 2.0 L/mg-m?** (calculated quarterly as a running annual average)
(Treated water SUVA is the ultraviolet light absorption at 254 nanometers in the finished water divided by the dissolved organic carbon concentration before any disinfection of any kind. Measured monthly)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month-Year												
Monthly SUVA												
RAA SUVA												

SURFACE WATER/INFLUENCED GROUNDWATER MONTHLY OPERATION REPORT FORM

IOWA DNR WATER SUPPLY

Alternative Compliance Criteria Report Page 2 of 2

System must be practicing Enhanced Softening for use of ACC #7 & #8

#7

Treated water alkalinity less than 60 mg/L (as CaCO3)? (calculated quarterly as a running annual average)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month-Year												
Monthly Treated Alkalinity												
RAA Treated Alk.												

AND cannot achieve the Step 1 TOC removal requirement

Step 1 Compliance Summary:

TOC % Removal Summary		
TOC % Removal	**Requirement**	**TOC Removal Ratio**

#8

Magnesium hardness removal greater than or equal to at least 10 mg/L (as CaCO3)? (calculated quarterly as a RAA)

	1	2	3	4	5	6	7	8	9	10	11	12
Actual Month-Year												
Monthly Raw Mg. Hardness												
Monthly Treated Mg. Hardness												
Monthly Mg Removal												
RAA Mg Removal												

AND cannot achieve the Step 1 TOC removal requirement

Step 1 Compliance Summary:

TOC % Removal Summary		
TOC % Removal	**Requirement**	**TOC Removal Ratio**

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: _____ Grade: _____ Date: _____