OhioEPA

State of Ohio Environmental Protection Agency

Southwest District Office

401 E. Fifth St.
Dayton, Ohio 45402

TELE: (937) 285-6357 FAX: (937) 285-6249
www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

January 5, 2009

ODNR-Division of Parks & Rec.
Mr. Scott Fletcher
2045 Morse Road C-3
Columbus, Ohio 43229

RE: Hueston Woods State Park PWS ID # 6833512
Violation of Lead Exceedance Requirements
OAC Rule 3745-81 (80 through 89)

Dear Water System Operator:

On March 31, 2008 Ohio EPA sent you a letter regarding your public water system exceeding the action level for lead. The letter outlined the steps your system was required to complete in order to comply with the lead and copper rules [OAC Rule 3745-81(80 through 89)].

Our records show that your water system failed to complete the following step(s)

1. Public Education

Due date: May 1, 2008

You must immediately deliver public education materials to your water users by posting and hand delivery. A copy of the public education information is enclosed, in which you can fill in specific information about your water system. You must deliver the public education task every 12 months as long as you exceed the lead action level. You must submit a letter to us by December 31 of each year reporting to us that you have delivered the required public education materials to your water users.

2. Corrosion Control Steps

Due date: October 1, 2008

As soon as possible the water system should complete the enclosed copy of the C-141 form and submit the corrosion control study to Ohio EPA, Southwest District Office in order to meet the lead action level exceedance requirements.

If you have any questions, please contact me or Dave Secor at (937) 285-6357.

Sincerely,

Daniel B. Osika

Dan Osika
Division of Drinking and Ground Waters

Enclosure

DO\bp

OhioEPA

DDAGW

Water Quality Parameter Monitoring Report
from both Distribution System (DS) and Entry Point (EP) sites
and Entry Point Lead and Copper Monitoring Report

PWS Name		PWS I.D.	County
Street or Box		Phone	Population
City	Zip Code	Sampling required for monitoring period:	

Return completed report to the DDAGW division at your Ohio EPA district office no later than 10 days after the end of the monitoring period. Keep a copy in your records for at least 12 years.

Analysis of	Laboratory Name	Cert. No.
Lead and Copper		
Water Quality Parameters		

NOTICE: This report is required under Revised Code Sections 6109.04 and 6109.12. Noncompliance may result in civil penalties up to a maximum of $25,000 per violation under Sections 6109.31 and 6109.33.

Sample date	Sample location	Type of site		Acidity pH	Temperature °C	Alkalinity mg/L	Calcium mg/L	Conductivity µmho/cm	Ortho-phosphate mg/L	Silica mg/L	Lead µg/L	Copper µg/L
		DS	EP									

Summary of Water Quality Parameter Monitoring

Number of distribution system sites required _____ Number of DS samples analyzed _____ (at least two per DS site)

Number of entry points to distribution system _____ Number of EP samples analyzed _____ (at least two per EP)

Summary of Lead and Copper Monitoring at Entry Points to the Distribution System

Number of entry points _____ Number of EP lead and copper samples analyzed _____ (at least one sample per EP)

I certify under penalty of law that I have personally examined and am familiar with the data submitted in this report; that the data in this report is true, accurate, and complete; and that I am aware that falsification thereof could result in the imposition of fines and penalities on me and/or this public water system.

Printed Name of Person in Responsible Charge of Monitoring	Signature of Person in Responsible Charge of Monitoring	Date

WATER QUALITY PARAMETERS

All water systems which exceed the lead or copper action level must also monitor water quality parameters in the distribution system and at each entry point to the distribution system in accordance with the Ohio Administrative Code rule 3745-81-87. **Water samples must be collected and analyzed for water quality parameter during the same monitoring period that the water system exceeded the lead or copper action level.** Water quality parameter monitoring consists of flushing the tap, then collecting and analyzing water samples for each of the following parameters:

pH
temperature
alkalinity
calcium
conductivity
orthophosphate (sampling is required only when a phosphate compound is used)
silica (sampling is required only when a silicate inhibitor is used)

The number of distribution system sites at which a water system must take water quality parameter samples depends on the number of people served as follows:

Population Served	Number of Sites
>100,000	25
10,000-100,000	10
3,300-10,000	3
501-3,300	2
25-500	1

Each distribution system site must be sampled <u>twice</u> during the monitoring period.

In addition to the distribution system sites, each entry point to the distribution system must also be sampled twice for water quality parameters.

Water quality parameter analyses results must be reported on EPA form 5108.

LEAD AND COPPER ENTRY POINT MONITORING

Water systems which exceed the lead or copper action level must also monitor for lead and copper at each entry point to the distribution system. Water samples for lead and copper analyses should be collected from each entry point during the same monitoring period that the water system exceeded the lead or copper action level. The sampling location should be flushed before collecting the sample. The analyses results must be reported on EPA form 5108, usually along with the water quality parameter analyses.

A nontransient noncommunity water system shall either include the text specified in paragraph (A)(1) of this rule or shall include the following text in all of the printed materials it distributes through its lead public education program. Water systems may delete information pertaining to lead service lines upon approval by the director if no lead service lines exist anywhere in the water system service area. Any additional information presented by a system shall be consistent with the information below and be in plain language that can be understood by lay people.

(a) "INTRODUCTION

The United States Environmental Protection Agency (USEPA) and [insert name of water supplier] are concerned about lead in your drinking water. Some drinking water samples taken from this facility have lead levels above the USEPA action level of 15 parts per billion (ppb), or 0.015 milligram of lead per liter of water (mg/L). Under Federal law we are required to have a program in place to minimize lead in your drinking water by [insert date when corrosion control will be completed for your system]. This program includes corrosion control treatment, source water treatment, and public education. We are also required to replace the portion of each lead service line that we own if the line contributes lead concentrations of more than 15 ppb after we have completed the comprehensive treatment program. If you have any questions about how we are carrying out the requirements of the lead regulation please give us a call at [insert water system's phone number]. This brochure explains the simple steps you can take to protect yourself by reducing your exposure to lead in drinking water.

(b) HEALTH EFFECTS OF LEAD

Lead is found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery, porcelain and pewter, and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination - like dirt and dust - that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

(c) LEAD IN DRINKING WATER

Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The USEPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome-plated brass faucets, and in some cases, pipes made of lead that connect houses and buildings to water mains (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials to 8.0%.

When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon if the water has not been used all day, can contain fairly high levels of lead.

(d) STEPS YOU CAN TAKE TO REDUCE EXPOSURE TO LEAD IN DRINKING WATER

Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in plumbing the more lead it may contain. Flushing the tap means running the cold water faucet for about 15-30 seconds. Although toilet flushing or showering flushes water through a portion of the plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your health. It usually uses less than one gallon of water.

Do not cook with, or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and then heat it.

The steps described above will reduce the lead concentrations in your drinking water. However, if you are still concerned, you may wish to use bottled water for drinking and cooking.

You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include:

[insert the name or title of facility official if appropriate] at [insert phone number] can provide you with information about your facility's water supply; and
The Ohio Department of Health at 614-466-1450 or the [insert the name of the city or county health department] at [insert phone number] can provide you with information about the health effects of lead."

CORROSION CONTROL STEPS REQUIRED BY SMALL SYSTEMS EXCEEDING THE ACTION LEVEL
(Rule 3745-81-82 of the Ohio Administrative Code)

1. Selection of Optimal Corrosion Control

Deadline:
Requirement: Submit your selection of one of the following alternatives, or combination of alternatives:

a. Alkalinity and pH Adjustment
b. Calcium hardness Adjustment
c. Phosphate or Silicate based corrosion inhibitor
d. Water lines or water fountain replacement
e. If available, connection to city, county or regional water system
f. If applicable, modifications to existing treatment (for example, existing ion exchange softening) to alter the water's corrosion characteristics
g. Proposed submittal of a comprehensive corrosion control study (Note: If you decide to do a comprehensive corrosion control study, you will have 18 months after we accept that proposal to complete the study and to submit it with detail construction plans; you will not need to complete # 2 below.)

2. Recommendation and Concept

In order to plan for implementing your selection above, you should submit the following:

a. A schematic drawing of your water treatment system showing the existing and proposed treatment units

b. A proposed operating range for applicable water quality parameters (if you currently have treatment other than chlorination or you are proposing treatment)

c. A list of current and proposed chemical dosages

d. A schedule of plumbing changes to be made (if applicable)

e. Completed form 141-C (enclosed) which should include items "b" and "c" above.

3. Construction Plans

If your corrosion control concept involves constructing additional facilities, then you must submit detailed construction plans according to a schedule that will be included in our acceptance letter for item # 2.

You can also obtain help from the Lead and Copper Rule Guidance Manual, Volume II: Corrosion Control Treatment. This manual can be purchased from the national Technical Information Service at 1-800-553-NTIS. Ask for NTIS document number PB 93-10/533.

Table 3-5. Source Water Treatment Guidelines for Systems Exceeding an AL

*** Note: States have the discretion to set their own guidelines for Source Water Treatment.**

Source Water Treatment Guidelines	Point of Entry Monitoring Results	
	Lead, mg/L	Copper, mg/L
Not Necessary	= 0.005	= 0.2
Optional	0.005 --- 0.010*	0.2 --- 0.8
Recommended	0.010 --- 0.015	0.8 --- 1.3 **
Required	> 0.015	> 1.3

* Source water treatment is recommended if the corrosion treatment is at or near optimal and the lead AL is still exceeded.

** If the copper AL is exceeded, source water treatment may be required when corrosion control treatment is unlikely to reduce copper levels below the AL.

Desktop E .uation Short Form for Small and . dium PWS
Treatment Recommendations
Form 141-C

A. PWS General Information:

1. **PWS Identification No.** _____

2. **Contact person:**
   Name _____
   Mailing Address _____
   _____
   _____
   Telephone _____ Fax _____

3. **Population served** _____

4. **Person responsible for preparing this form:**
   Name _____
   Signature
   Telephone _____

B. PWS Technical Information:

1. **Monitoring Results:**
   Sampling dates: From _____ To _____

First-Flush Tap Monitoring Results:

Lead:

Minimum concentration	=	_____	mg/L
Maximum concentration	=	_____	mg/L
90th percentile	=	_____	mg/L

Copper:

Minimum concentration	=	_____	mg/L
Maximum concentration	=	_____	mg/L
90th percentile	=	_____	mg/L

Point-of Entry Tap Monitoring Results:

	Points of Entry				
	1	2	3	4	5
Lead Concentration in mg/L:	____	____	____	____	____
Copper Concentration in mg/L:	____	____	____	____	____
pH:	____	____	____	____	____
Temperature, °C:	____	____	____	____	____
Alkalinity, mg/L as $CaCO_3$:	____	____	____	____	____
Calcium, mg/L as Ca:	____	____	____	____	____
Conductivity, umho/cm @ 25°C:	____	____	____	____	____
Phosphate, mg/L as P:	____	____	____	____	____
Silicate, mg/L as SiO_2:	____	____	____	____	____

1. Monitoring Results (continued):

Water Quality Parameter Distribution System Monitoring Results:
Indicate whether field or laboratory measurement.

			Field	Lab
pH:				
minimum =	_____		_____	_____
maximum =	_____			
alkalinity:			_____	_____
minimum =	_____	mg/L as $CaCO_3$		
maximum =	_____	mg/L as $CaCO_3$		
temperature:			_____	_____
minimum =	_____	^0C		
maximum =	_____	^0C		
calcium:			_____	_____
minimum =	_____	mg/L as Ca		
maximum =	_____	mg/L as Ca		
conductivity:			_____	_____
minimum =	_____	umho/cm @ 25^0C		
maximum =	_____	umho/cm @ 25^0C		
orthophosphate:			_____	_____
(if phosphate-based inhibitor is used)				
minimum =	_____	mg/L as P		
maximum =	_____	mg/L as P		
silica:			_____	_____
(if silica-based inhibitor is used)				
minimum =	_____	mg/L as SiO_2		
maximum =	_____	mg/L as SiO_2		

2. Existing Conditions:

Is treatment used? yes _____ no _____

Identify water source(s):

Source No. 1 _____

Source No. 2 _____

Source No. 3 _____

If treatment is used, is more than one source used at a time?

yes _____ no _____

2. Existing Conditions (continued):

Identify treatment processes used for each source:

Process	No. 1	No. 2	No. 3
Presedimentation	_____	_____	_____
Aeration	_____	_____	_____
Chemical mixing	_____	_____	_____
Flocculation	_____	_____	_____
Sedimentation	_____	_____	_____
Recarbonation	_____	_____	_____
2nd Stage mixing	_____	_____	_____
2nd Stage flocculation	_____	_____	_____
2nd Stage sedimentation	_____	_____	_____
Filtration:	_____	_____	_____
Single medium	_____	_____	_____
Dual media	_____	_____	_____
Multi-media	_____	_____	_____
GAC cap on filters	_____	_____	_____
Disinfection:	_____	_____	_____
Chlorine	_____	_____	_____
Chlorine dioxide	_____	_____	_____
Chloramines	_____	_____	_____
Ozone	_____	_____	_____
Granular Activated Carbon	_____	_____	_____

List chemicals normally fed:

List chemicals sometimes fed:

3. Present Corrosion Control Treatment:

None _____

Inhibitor _____

Date initiated _____

Present dose _____

Range in Residual in Distribution System:

Maximum _____ mg/L Minimum _____ mg/L

Brand name _____

Type _____

Has it been effective? Please comment on your experience.

pH/alkalinity adjustment _____

pH Target _____

Alkalinity Target _____ mg/L $CaCO_3$

Calcium adjustment _____

Calcium Target _____ mg/L $CaCO_3$

4. Water Quality:

Complete the table below for typical untreated and treated water quality data. Copy this form as necessary for additional sources. Include data for each raw water source, if surface supplies are used, and finished water quality information (point of entry) from each treatment plant. If wells are used, water quality information from each well is acceptable but not necessary if several wells have similar data. For groundwater supplies, include a water quality summary from each wellfield or grouping of wells with similar quality.

Include available data for the following:

Parameter	Untreated Supply	Treated Water (point of entry)
pH, units		
Alkalinity, mg/L as $CaCO_3$		
Conductivity, umho/cm @ 25^{0}C		
Total dissolved solids, mg/L		
Calcium, mg/L Ca		
Hardness, mg/L as $CaCO_3$		
Temperature, ^{0}C		
Chloride, mg/L		
Sulfate, mg/L		

5. Distribution System:

Does the distribution system contain lead service lines?
yes _____ no _____

If your system has lead service lines, mark below the approximate number of lines which can be located from existing records.
None _____ Some _____ Most _____ All _____

Is the distribution system flushed?
None _____ Some _____ Most _____ All _____

6. Historical Information:

Is there a history of water quality complaints?

yes _____ no _____

If yes, then answer the following:

Are the complaints documented? yes _____ no _____

Mark the general category of complaints below. Use:

1. for some complaints in this category
2. for several complaints in this category
3. for severe complaints in this category

Categories of complaints:

Taste and odor _____
Color _____
Sediment _____
Other (specify) _____

Have there been any corrosion control studies?

Yes _____ No _____

If yes, please indicate

Date(s) of study From: _____ To _____:

Study conducted by PWS personnel? yes _____ no _____

Brief results of study were:

(optional) Study results attached yes _____ no _____

Were treatment changes recommended? yes _____ no _____

If yes:

Were treatment changes implemented? yes _____ no _____

Have corrosion characteristics of the treated water changed?

yes ___ no ___

If yes, how has change been measured?

General observation _____
Coupons _____
Frequency of complaints _____
Other _____

Briefly indicate, if other:

7. **Treatment Constraints:**

Optimal corrosion control treatment means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate any national primary drinking water regulations. Please indicate below which constraints to treatment will apply to your PWS. Use the following code:

1 Some constraint = Potential Impact but Extent Is Uncertain
2 Significant constraint = Other Treatment Modifications Required to Operate Option
3 Severe constraint = Additional Capital Improvements Required to Operate Option
4 Very severe constraint = Renders Option Infeasible

Constraint	Treatments			
	pH/Alkalinity Adjustment	Calcium Adjustment	Inhibitor	
			PO_4	Si
A. Regulatory				
SOCs/IOCs				
SWTR: Turbidity				
Total Coliforms				
SWTR/GWDR: Disinfection				
Disinfection Byproducts				
Lead and Copper Rule				
Radionuclides				
B. Functional				
Taste & Odor				
Wastewater Permit				
Aesthetics				
Operational				
Other				

8. **Desktop Evaluation:**

Briefly summarize the review of the corrosion control literature that pertains to your PWS. A report or summary can be appended to this form if preferred.

:

Were other similar facilities located which are experiencing successful corrosion control? yes _____ no _____

If yes, identify their corrosion control treatment method.

None _____
pH/Alkalinity adjustment _____
Calcium adjustment _____
Inhibitor _____
Phosphate based _____
Silica based _____

9. **Recommendations:**

The corrosion control treatment method being proposed is:

pH/Alkalinity adjustment _____
Target pH is _____ units
Target alkalinity is _____ mg/L as $CaCO_3$
Calcium adjustment
Target calcium concentration is _____ mg/L Ca
Inhibitor _____
Phosphate based _____
Brand name _____
Target dose _____ mg\L
Target residual _____ Mg\L orthophosphate as p
Silica based _____
Brand name _____
Target dose _____ mg\L
Target residual _____ Mg\L as SiO_2

Rationale for the proposed corrosion control treatment is:

Discussed in the enclosed report _____
Briefly explained below _____

List your proposed operating guidelines:

Parameter	Operating Range

Briefly explain why these guidelines were selected.

10. Please provide any additional comments that will assist in determining optimal corrosion control treatment for your PWS.