

DuPage Water Commission and Lead

Twenty five years ago the U.S Environmental Protection Agency (USEPA) published the Lead and Copper Rule (LCR) to control lead and copper in drinking water. The reason for the rule is that lead and copper negatively affect our health that much is clear. What is not widely understood outside of the water treatment and regulatory communities is that the LCR's action level is not a health-based limit but rather a trigger for water providers to implement treatment options which include water quality practices that help stabilize the water and prevent a corrosive environment. The LCR was developed to protect the end users, but the simple fact is that as long as there are lead pipes in the ground or lead plumbing in the home, some risk remains.

In light of the recent incidents in Flint Michigan, lead in drinking water has risen to the front page of every newspaper and the top story for every local news station. These stories have caused our customers to question the safety of the water we supply on a daily basis. Our job is to reassure our customers that the water we supply is safe to drink and that we are diligently monitoring the water quality from the time it leaves our plant to the time it reaches their home.

The source water for the DuPage Water Commission is Lake Michigan, which doesn't contain any detectable lead. As the water passes through the James W. Jardine Treatment plant and flows through the City's tunnel system on its journey to DuPage County, the water does not pick up any detectable concentration of lead. The DuPage Water Commission facilities were constructed well after the use of lead was eliminated in 1986. This adds to the safeguard that the water has no contact with any source of lead on its journey from Lake Michigan to your community.

The City of Chicago routinely tests the source water and the water in their transmission system for lead and a variety of other possible contaminants in addition to their LCR required sampling of their distribution system. The Water Commission has recently started an additional testing program to verify the absence of lead and any other common contaminants in the water system. *(Test reports are attached)*

Sources of lead in drinking water are primarily from materials and components associated with service lines and home plumbing. Water suppliers are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If you have a question about the materials used to supply water to your home, please contact your local water utility supplier.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at:

<http://www.epa.gov/lead>

<http://extension.psu.edu/natural-resources/water/drinking-water/water-testing/pollutants/lead-in-drinking-water>

<http://www.awwa.org/lead>

There has been a call to remove all lead from the nation's drinking water systems and this will be a huge challenge for our industry, but before we address this task there are other solutions we should be addressing:

- Develop a communication plan to explain to your customers the risks of lead in drinking water
- Explain what your utility is doing to manage the risks associated with lead in drinking water
- Educate your customers on how they can protect themselves from lead in drinking water
- Develop a plan to locate and track the lead service lines in your system
- Develop a strategy and timeline to eventually replace the lead service lines in your system

The most baffling question in solving this lead challenge is who will pay? The proposed concept of cost sharing between the utility and the customers is currently being debated and there are no simple answers on the horizon. In the interim the best you can do is keep your customers informed and make some of the following suggestions:

- **Have your water tested:** Request a test from your local utility or check the Illinois Environmental Protection Agency
- **Be aware of work that can disturb the service line:** Construction, water main replacement or service line repair can loosen up lead, contaminating the water flowing into the house.
- **Run water before use:** Especially important if the home's water has not been used for several hours. The time varies based on the length of the lead service line. Five minutes will considerably reduce the amount of lead.
- **Use only cold water** for drinking, cooking and preparing baby formula.
- **Purchase a water filter:** Make sure it is certified to remove "total lead."
- **Replace the entire lead service line.**
- **Change faucet screens:** Routinely clean screens at the tip of the faucet, where sediment and metals can collect. The components should unscrew easily.

Frequently Asked Questions

Q: How often do water systems have to test for lead?

A: Systems must test every six months until they have achieved compliance and can qualify for a reduced sampling program. Systems that serve more than 50,000 customers can test annually as soon as two consecutive testing periods are below the level that requires federal action. Smaller systems that meet that standard can test every three years.

Q: How do cities decide which homes to test and how are samples collected?

A: Water systems are supposed to collect samples from buildings that are at highest risk of lead contamination. Homeowners are recruited to voluntarily collect the samples, which must be drawn from a tap that has not been used for at least six hours.

Q: How many samples are collected?

A: It depends on a system's size and whether it is on a reduced-sampling program. The number can vary from 100 samples for the largest water districts to five for the smallest.

Q: What is the threshold for the EPA considering a water system in violation?

A: A system is considered out of compliance if more than 10 percent of the sites sampled have lead levels above the federal-action level of 15 parts per billion.

Q: What happens then?

A: Within 60 days, the system must notify customers about the test results and inform them of the possible health risks and outline steps they can take to protect themselves. Those suggestions often include running water for 30 seconds to flush lead, using cold water for cooking and making baby formula, and replacing lead-based plumbing fixtures and service lines. Buying water filters and bottled water also are options.

Q: Are the water systems required to do anything else?

A: Yes. Typically, they are required to study and eventually add corrosion-control treatments to the water supply. Often, systems use a chemical such as phosphate to make the water less corrosive and therefore less likely to leach lead from service lines and plumbing fixtures. They may also be required to replace some lead service lines, which connect water mains to individual homes.

Q: Do all schools and day care centers have to test for lead?

A: No. In fact, most schools are not required to do testing under the rule. Only schools and day care centers that operate their own water systems are required to test for lead. Public and private schools and day care facilities that rely on a municipal water system are not required to test, although some do in the interest of safety.

Q: How do I know if my house might have lead in the water?

A: Just because your community is over or under the federal limit does not mean the drinking water at your house is safe or unsafe. The best way to know might be to call your water supplier to have it tested for lead, a service that many are now offering for free.

Q: Why don't more water systems replace their old lead pipes?

A: The cost, along with some questions about ownership. Many water systems have replaced or are in the process of replacing all of the lead-based water lines they own. But millions of miles of service lines deliver water to old homes, schools and businesses, and often cost \$3,000 to \$7,000 per location to replace. Property owners are generally responsible for those pipes.



April 25, 2016

Terry McGhee
Du Page Water Commission
600 E. Butterfield Road
Elmhurst, IL 60126-4642

Work Order: 1604407

TEL: (630) 340-0100
FAX: (630) 340-0120
RE: Non-Compliance Drinking Water Analysis

Dear Terry McGhee:

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,



Pat Rodriguez
Customer Service Manager
708-544-3260 ext. 214
pat@suburbanlabs.com



Illinois Department of Public Health #17585

Illinois EPA #100225 Wisconsin FID#:399089350



Case Narrative

Client: DUPAGE_W_C

Date: April 25, 2016

Project: Non-Compliance Drinking Water Analysis

PO:

WorkOrder: 1604407

QC Level: LEVEL I

Temperature of samples upon receipt at lab: 15 C

Chain of Custody: ELEC

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.
- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.
- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.
- All water analyses that are required to be performed in the field (e.g., pH, residual chlorine, sulfite, temperature, etc.) but are analyzed in the lab are identified as "in lab" and are considered past holding time. Following industry practices these results do not contain an "H" flag but are qualified as being analyzed in the lab.

Abbreviations:

- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS (Surrogate Standard): Quality control compound added to the sample by the lab.

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

1604407-001A was preserved in the lab.

SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260



Laboratory Results

Client: Du Page Water Commission

Report Date: April 25, 2016

Project: Non-Compliance Drinking Water Analysis

Workorder: 1604407

Client Sample ID: DWC DISCHARGE

Matrix: Drinking Water

Lab ID: 1604407-001

Date Received: 4/6/2016 12:14 PM

Collection Date: 4/6/2016 9:00 AM

Parameter	Result	MCL	Report Limit	Qual	Units	DF	Date Analyzed	BatchID
Total Nitrates (Nitrate+Nitrite)								
Method: --			Analyst: pgr					
Total Nitrates (as N)	.5	10.0	0		mg/L	1	4/6/2016 3:10 PM	R70674
TURBIDITY								
Method: -180.1-2.0, Aug-93			Analyst: jmk					
Turbidity	ND		0.100		NTU	1	4/6/2016 3:00 PM	R70666
METALS by ICP								
Method: -200.7-4.4,1994			Analyst: jtl					
Calcium	36,500		500		µg/L	10	4/11/2016 1:57 PM	35452
Hardness, Ca/Mg (As CaCO3)	140,000		0		µg/L	10	4/11/2016 1:57 PM	35452
Iron	ND	1,000	50.0		µg/L	1	4/11/2016 3:03 PM	35452
Iron	ND	1,000	500		µg/L	10	4/11/2016 1:57 PM	35452
Magnesium	11,800		500		µg/L	10	4/11/2016 1:57 PM	35452
Sodium	7,390		3,000		µg/L	10	4/11/2016 1:57 PM	35452
METALS by ICPMS								
Method: -200.8-5.4, 1994			Analyst: jmk					
Antimony	ND	6.00	2.00		µg/L	1	4/11/2016 2:36 PM	35452
Arsenic	ND	10.0	0.500		µg/L	1	4/7/2016 4:21 PM	35452
Barium	21.3	2,000	5.00		µg/L	1	4/7/2016 4:21 PM	35452
Beryllium	ND	4.00	1.00		µg/L	1	4/11/2016 2:36 PM	35452
Cadmium	ND	5.00	3.00		µg/L	1	4/11/2016 2:36 PM	35452
Chromium	ND	100	5.00		µg/L	1	4/11/2016 2:36 PM	35452
Copper	ND	1,300	100		µg/L	1	4/7/2016 4:21 PM	35452
Lead	ND	15.0	5.00		µg/L	1	4/7/2016 4:21 PM	35452
Mercury	ND	2.00	0.100		µg/L	1	4/11/2016 2:36 PM	35452
Selenium	ND	50.0	2.00		µg/L	1	4/7/2016 4:21 PM	35452
Thallium	ND	2.00	2.00		µg/L	1	4/11/2016 2:36 PM	35452
ALKALINITY, TOTAL								
Method: -2320B-18Ed, 1992, 21Ed, 1997			Analyst: src					
Alkalinity, Total(As CaCO3)	106		20.0		mg/L CaCO3	1	4/7/2016 3:17 PM	R70711
VOLATILE ORGANIC COMPOUNDS (Regulated)								
Method: -524.2-R4.1			Analyst: rgb					
Benzene	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Carbon tetrachloride	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Chlorobenzene	ND	100	0.500		µg/L	1	4/8/2016 10:19 AM	R70762

Rpt Ver: 4/25/2016 4:57 PM

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Laboratory Results

Client: Du Page Water Commission

Report Date: April 25, 2016

Project: Non-Compliance Drinking Water Analysis

Workorder: 1604407

Client Sample ID: DWC DISCHARGE

Matrix: Drinking Water

Lab ID: 1604407-001

Date Received: 4/6/2016 12:14 PM

Collection Date: 4/6/2016 9:00 AM

Parameter	Result	MCL	Report Limit	Qual	Units	DF	Date Analyzed	BatchID
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VOLATILE ORGANIC COMPOUNDS (Regulated)

Method: -524.2-R4.1

Analyst: rgb

1,4-Dichlorobenzene	ND	75.0	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,2-Dichlorobenzene	ND	600	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,2-Dichloroethane	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,1-Dichloroethane	ND	7.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
cis-1,2-Dichloroethane	ND	70.0	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
trans-1,2-Dichloroethane	ND	100	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,2-Dichloropropane	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Ethylbenzene	ND	700	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Methylene chloride	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Styrene	ND	100	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Tetrachloroethene	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Toluene	ND	1,000	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,2,4-Trichlorobenzene	ND	70.0	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Trichloroethene	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,1,1-Trichloroethane	ND	200	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
1,1,2-Trichloroethane	ND	5.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Vinyl chloride	ND	2.00	0.500		µg/L	1	4/8/2016 10:19 AM	R70762
m,p-Xylene	ND		0.500		µg/L	1	4/8/2016 10:19 AM	R70762
o-Xylene	ND		0.500		µg/L	1	4/8/2016 10:19 AM	R70762
Total Xylenes	ND	10,000	0.500		µg/L	1	4/8/2016 10:19 AM	R70762

Internal Quality Control Compounds

Surr: 1,2-Dichlorobenzene-d4	115		70-130		%Rec	1	4/8/2016 10:19 AM	R70762
Surr: 4-Bromofluorobenzene	117		70-130		%Rec	1	4/8/2016 10:19 AM	R70762

VOLATILE ORGANIC COMPOUNDS (Unregulated)

Method: -524.2-4.1, 1995

Analyst: rgb

Methyl tert-butyl ether	ND		0.500		µg/L	1	4/8/2016 10:19 AM	R70762
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Internal Quality Control Compounds

Surr: 1,2-Dichlorobenzene-d4	115		66.8-122		%Rec	1	4/8/2016 10:19 AM	R70762
Surr: 4-Bromofluorobenzene	117		67.7-120		%Rec	1	4/8/2016 10:19 AM	R70762

PESTICIDE COMPOUNDS

Method: -525.2-2.0, 1995

Analyst: ls

Alachlor	ND	2.00	0.200		µg/L	1	4/21/2016 2:35 PM	35718
Atrazine	ND	3.00	0.200		µg/L	1	4/21/2016 2:35 PM	35718

Rpt Ver: 4/25/2016 4:57 PM

Simazine	ND	4.00	0.200	µg/L	1	4/21/2016 2:35 PM	35718
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Internal Quality Control Compounds

Surr: 1,3-Dimethyl-2-nitrobenzene	95.6	60.3-130	%Rec	1	4/21/2016 2:35 PM	35718
Surr: Perylene-d12	49.2	26-125	%Rec	1	4/21/2016 2:35 PM	35718
Surr: Triphenyl phosphate	108	50.9-181	%Rec	1	4/21/2016 2:35 PM	35718

pH Method 9041A (in laboratory)

Method: -9041A-1, Jul-92

Analyst: pgr

pH	7		pH Units	1	4/6/2016 3:10 PM	R70674
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Coliform, Presence-Absence

Method: -9223B-PA-18Ed, 1992

Analyst: emk

E. Coli	0	0	CFU/100m 1	1	4/7/2016 2:55 PM	35433
Total Coliform	0	0	CFU/100m 1	1	4/7/2016 2:55 PM	35433

SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260



Prep Dates

Client: Du Page Water Commission

Report Date: April 25, 2016
Original

Project: Non-Compliance Drinking Water Analysis

Workorder: 1604407

Sample ID	Client Sample ID	Collection Date	Prep Batch	Prep Test Name	Leachate Date	Prep Date
1604407-001A	DWC DISCHARGE	4/6/2016 9:00 AM				
			35452	Turbidity Check		4/7/2016 9:21 AM
			35452	Turbidity Check		4/7/2016 9:21 AM
1604407-001B	DWC DISCHARGE	4/6/2016 9:00 AM				
1604407-001C	DWC DISCHARGE	4/6/2016 9:00 AM				
1604407-001D	DWC DISCHARGE	4/6/2016 9:00 AM				
			35433	Total Coliform Prep		4/6/2016 2:38 PM
1604407-001E	DWC DISCHARGE	4/6/2016 9:00 AM				
1604407-001F	DWC DISCHARGE	4/6/2016 9:00 AM				
			35718	525 Prep Code		4/20/2016 12:20 PM



Report Date: April 25, 2016

WorkOrder: 1604407

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- c Analyte not in SLI scope of accreditation
- C Value is below Minimum Concentration Limit
- E Estimated, detected above quantitation range
- G Refer to case narrative page for specific comments
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limit (QL)
- N Tentatively identified compound
- ND Not Detected at the Reporting Limit
- P Present
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- W Sample container temperature is out of limit as specified at testcode



Company Name: DuPage Water Commission
 Company Address: 600 E. South Blvd
 City: Elmhurst, IL 60120
 Phone: 630.837.0160
 Email Address: mgheered@dupage.il.gov
 Project ID / Location: Safe Water Test Package 1
 Project Manager / Reporter: Terry McKeown
 Sample Collector: Terry McKeown

TURNAROUND TIME REQUESTED
 Normal RUSH* *Additional Rush Charges Approved.
 Date & Time Needed: _____
 Normal TAT is 5-7 work days for most work. Rush work must be pre-approved and additional charges apply.
 Specify Regulatory Program: (Required)
 None/Info only
 LUST SRP SDWA
 503 Sludge NPDES MWRDGC
 Disposal Other *Please specify in comment section below.

ANALYSIS & METHOD REQUESTED
 Enter an "X" in box below for request
 SAFE WATER TEST PACKAGE 1

Page 1 of 1
 PO No. _____
 Shipping Method _____
 QC Reporting Level 1 2 3
LAB USE ONLY
 Sample Containers Supplied by Client Yes No
 Temperature of Received Sample _____
 Samples for analysis within 24 hours of collection? Yes No

SAMPLE IDENTIFICATION	COLLECTION		MATRIX	GRAB/COMP.	CONTAINERS		PRESERVATIVE	SAFE WATER TEST PACKAGE 1	IS	Conditions	Spill	LAB USE ONLY
	DATE	TIME			Qty	SIZE & TYPE						
1. Dupe Discharge	9-6	9:00	DW	G	1	1 Liter Plastic	HNO3	X				001A
2. Dupe Discharge	9-6	9:00	DW	G	2	40 mL Glass Vial	HCl	X				001B
3. Dupe Discharge	9-6	9:00	DW	G	2	1 Liter Amber Glass	Na2SO3/HCl	X				001F
4. Dupe Discharge	9-6	9:00	DW	G	1	8 oz Plastic	Unpreserved	X				001E
5. Dupe Discharge	9-6	9:00	DW	G	1	1 Liter Plastic	Unpreserved	X				001C
6. Dupe Discharge	9-6	9:00	DW	G	1	120 mL Plastic	Na2S2O3	X				001D
7												
8												
9												
10												
11												
12												

MATRIX: Drinking Water (DW), Soil (S), Waste Water (WW), Surface Water (SW), Ground Water (GW), Solid Waste (WA), Sludge (U), Wipe (P) **CONTAINER:** 2oz, 4oz, 8oz, 40ml Vial, 500ml, Liter (L), Tube, Glass (G), Plastic (P) **PRESERVATIVE:** H2SO4, HCl, HNO3, Methanol (MeOH), NaOH, Sodium Bisulfate (NaB), NaThio

COMMENTS & SPECIAL INSTRUCTIONS:
 PLEASE COMPLETE THE HIGHLIGHTED SECTIONS
\$499.00
 COLLECT ALL BOTTLES AND VIALS FROM THE SAME TAP
 FILL EACH VIAL WITHOUT AIR BUBBLES - DO NOT OVERFLOW AND SPILL HCl PRESERVATIVE
 ADD ONE 7 ML HCl FIELD PRESERVATION VIAL TO EACH OF THE LITER AMBER BOTTLES AFTER SAMPLE COLLECTION

- CONDITION CODES**
1. Improper/damaged container/cap
 2. Improper preservation
 3. Insufficient sample volume
 4. Headspace/air bubbles for VOCs
 5. Received past holding time
 6. Received frozen
 7. Label conflicts with COC

1. Relinquished By Terry McKeown	2. Relinquished By <i>[Signature]</i>	3. Relinquished By	4. Relinquished By
Received By Bell John	Received By <i>[Signature]</i>	Received By	Received By
Date 9/6/10	Date 9/6/10	Date	Date
Time	Time	Time	Time

Submission of samples subject to Terms and Conditions on back. Rev. 7/20/08 Please fill out this form completely, print, sign & submit with samples. Keep a copy for your records.

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