



August 24, 2016

Email: dblack@oakton.edu

Dan Black
Director of Building and Grounds
Oakton Community College
1600 East Golf Road
Des Plaines, IL 60016

Re: Lead and Copper Water Quality – Follow-up Sampling
Hygieneering Project # 2016-2876-EA

Dear Mr. Black:

Hygieneering, Inc. (Hygieneering) was retained by Oakton Community College to provide environmental testing and consulting services. Hygieneering conducted proactive potable water quality sampling at schools that comprise the Oakton Community College. The purpose of this study was not intended for water quality compliance monitoring. The purpose of this study was to conduct follow up proactive water quality sampling for informational purposes. Hygieneering conducted the following tasks as part of this project:

Scope of Work

Hygieneering conducted the following services:

1. Hygieneering collected one water sample from the following schools that comprise Oakton Community College:
 - Main Building- Des Plaines South Gym Drinking Fountain
 - Main Building- Skokie Drinking Fountain near room C151
2. One, first draw water sample was collected from each pre-determined water fixture from each of the above referenced schools/building. First draw samples were collected after at least a six-hour rest period, where the fixtures and water were not utilized during that time period, as required by the Environmental Protection Agency (US EPA), Illinois Environmental Protection Agency (IEPA) and Illinois Department of Public Health (IDPH). Also a second sample was conducted after a one-minute flush of the fixture.
3. Collectively, a total of four (4) water samples were collected and submitted to a drinking water accredited laboratory for lead and copper analysis. Per request of the client, samples were analyzed on standard seven to ten laboratory business days.
4. Analytical results were compared to the Environmental Protection Agency's (EPA) National Primary Drinking Water Regulations (NPDWR/) or Primary Standards.
5. Hygieneering prepared this letter report documenting field activities and laboratory analytical results in comparison to EPA's Primary and/or Secondary Drinking Water Standards.
6. Certified Hazardous Materials Managers (CHMM) and Environmental Consultants managed this project.
7. Hygieneering prepared this letter report documenting field activities and laboratory analytical results in comparison to EPA's Primary and/or Secondary Drinking Water Standards.

The following provides detailed information for this water assessment.



Constituent/Parameter Selection and Characteristics

Per the request of the Oakton Community College, Hygieneering collected water samples for laboratory analysis for lead and copper. Lead in drinking water is commonly associated with corrosion of plumbing systems or erosion of natural deposits (source: United States Environmental Protection Agency Drinking Water Contaminants –Standards and Regulations, January 6, 2016).

Reference Standards

Under the Safe Drinking Water Act (SDWA), the US EPA regulates various contaminants for drinking water via the National Primary Drinking Water Regulations (NPDWRs or Primary Standards). NPDWRs or Primary Standards are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants or disinfectants in drinking water. The threshold values of contaminants for drinking water are determined via maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) for the future, or by establishing treatment techniques (TT's). MCLs are the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, and are enforceable standards. MCLGs are the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.

For some contaminants, a treatment technique (TT) is established, which is a required process intended to reduce the level of a contaminant in drinking water if the contaminant is above specific concentrations, known as the Action Level (AL). Lead and copper are addressed by what is referred to as the “Lead and Copper Rule,” in which its purpose is to minimize lead and copper levels in drinking water primarily by reducing water corrosivity through treatment techniques. The LCR is a regulation that applies to lead and copper and is required for public water systems (PWS). A PWS is defined as “a public water system provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year. A public water system may be publicly or privately owned.” (source:<https://www.epa.gov/dwreginfo/information-about-public-water-systems>). If the facility is not a PWS, sampling of water and analysis of lead is voluntary. Under the LCR, lead and copper are regulated by a TT based on an established AL to control the corrosiveness of water. For PWS, the US EPA established AL for lead is 0.015 mg/L [i.e. parts per million (ppm)] which is equivalent to 15 ug/L [i.e. parts per billions (ppb)]. The US EPA established AL for copper is 1.3 mg/L [i.e. parts per million (ppm)] which is equivalent to 1300 ug/L [i.e. parts per billions (ppb)].

For schools, the US EPA established a guidance document that utilizes an AL of 0.020 ppm or 20 ppb rather than the US EPA enforceable 15 ppb (source: “3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance” dated 2006. This manual contains recommendations on how to address lead in school drinking water systems; these are suggestions only and are not requirements. Again, unless the facility is a PWS, there is no federal law requiring testing of drinking water in schools.

Oakton Community College conducted water sampling on a proactive basis to assess the water quality. Hygieneering compared lead to the AL of 15 ppb and copper to the AL of 1300 ppb. Hygieneering compared laboratory analytical results to the Lead-Copper Rule AL for lead at 15 ppb, rather than 20 ppb since the Lead-Copper Rule AL is the US EPA's regulated concentration for lead whereas the school's AL is a value based on a guidance document not regulatory requirements. Additionally, 15 ppb is more conservative for comparison.

The US EPA also established the National Secondary Drinking Water Regulations (NSDWR or Secondary Standards), which are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (skin or tooth discoloration), aesthetic effects (undesirable taste, odor, or color), and technical effects (damage to water equipment or reduced effectiveness of treatment for other contaminants) in drinking water. EPA



recommends Secondary Standards to water systems but does not require systems to comply; however, states may choose to adopt them as enforceable standards.

Illinois has adopted all federal MCLs and has also adopted several state-only drinking water standards for which no federal MCL exists. State-only regulated contaminants may be characterized under EPA’s Secondary Standards; however, the Illinois state-only drinking water standards also apply.

Project Activities

Hygieneering collected one water follow up sample from the following schools that comprise Oakton Community College:

- Main Building- Des Plaines Campus South Gym Drinking Fountain/ Bottle Filling Station
- Main Building- Skokie Campus Drinking Fountain near room C151

Sample Results & Interpretation

In summary, the analytical results indicated one slightly elevated level. The level of copper in the Des Plains Campus Gym South Bottle filler was at 1350 ppb with an IL EPA limit of 1300 ppb. A second sample was collected after a 1-minute flush and the analytical results indicated a Non Detect result. The Skokie Campus drinking fountain near room C 151 was within the EPA limits for both lead and copper.

<u>Location</u>	<u>EPA Limit For Lead</u>	<u>EPA Limit For Copper</u>	<u>Lead Results 7-28-16</u>	<u>Copper Result 6-17-16</u>	<u>Copper Results 7-28-16</u>	<u>Copper Results After 1-Minute Flush 7-28-16</u>
Des Plains South GYM Bottle filling station (DF4)	15 ppb	1300 ppb	ND	1610 ppb	1350 ppb	ND
Skokie drinking fountain near room C 151 (DF108)	15 ppb	1300 ppb	ND	1340 ppb	798 ppb	496 ppb

Conclusions and Recommendations

Hygieneering conducted a proactive evaluation of potable water quality for lead and copper selected by Oakton Community College. This investigation was not intended as a drinking water compliance investigation, but for proactive information purposes only. Lead was compared to the EPA’s Primary Drinking Water Standard Action Level of 0.015 parts per million (ppm), which is equivalent to 15 parts per billion (ppb). Copper was compared to the EPA’s Primary Drinking Water Standard Action Level of 1.3 parts per million (ppm), which is equivalent to 1300 parts per billion (ppb). The Illinois Environmental Protection Agency’s (IEPA) and Illinois Department of Public Health (IDPH) have also adopted these AL for lead and copper.

In summary, the analytical results indicate 1 exceedance of IL EPA’s Standard for copper in solely the first draw water sample collected from the bottle filling station at the south Gym at the Des Plains Campus; lead was below its AL in the water sample collected from both samples. Both samples were below EPA limits after a 1-minute flush of the fixtures.



Hygieneering recommends the following for your consideration:

- Further evaluate the bottle filling station that had an exceedance of copper.
- Continue with proactive measures of evaluating water quality at the Oakton Community College facilities.

Report Applicability

Results of this assessment were based on conditions present and observations made at the time of this survey. Additional pertinent information is presented in this report, so the report should be read as a whole. If you have any questions regarding this information, please contact us at (630) 654-2550. Thank you for this opportunity to continue to serve your environmental, health and safety needs.

Sincerely,

Hygieneering, Inc.

Bob Anderson, CSP, CHMM
Director, Environmental Services



ATTACHMENT 1

ANALYTICAL RESULTS

SUBURBAN LABORATORIES, Inc.



1950 S. Batavia Ave., Suite 150 Geneva, Illinois 60134
Tel. (708) 544-3260 • Toll Free (800) 783-LABS
Fax (708) 544-8587
www.suburbanlabs.com

August 04, 2016

Bob Anderson
Hygieneering, Inc.
7575 Plaza Court
Willowbrook, IL 60521

Workorder: 1607008

TEL: (630) 654-2550

FAX:

RE: Oakton Community College Drinking Water Lead and Copper Analysis

Dear Bob Anderson:

Suburban Laboratories, Inc. received 4 sample(s) on 7/29/2016 for the analyses presented in the following report.

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
Logistics Manager
708-544-3260 ext 214
pat@suburbanlabs.com





Client: Hygieneering, Inc.

Date: August 04, 2016

Project: Oakton Community College Drinking Water Lea

PO #:

WorkOrder: 1607O08

QC Level:

Temperature of samples upon receipt at SLI: C

Chain of Custody #:

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.
- All radiological results are reported to the 95% confidence level.

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:

1607O08-001A - 004A was preserved in the lab.



Suburban Laboratories, Inc.

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

Laboratory Results

Client ID: Hygieneering, Inc.

Report Date: August 04, 2016

Project Name: Oakton Community College Drinking Water Lea

Workorder: 1607O08

Client Sample ID: DES PLAINES 1

Matrix: DRINKING WATER

Lab ID: 1607O08-001

Date Received: 07/29/2016 10:31 AM

Collection Date: 07/28/2016 12:00 PM

Parameter	Result	Report		Qual.	Units	Dilution		Batch ID
		MCL	Limit			Factor	Date Analyzed	
METALS BY ICPMS								
				Method: EPA-200.8-Rev 5.4, 1994			Analyst: jmk	
Copper	1,350	1,300	100	*	µg/L	1	07/31/2016 8:41 AM	38705
Lead	ND	15.0	5.00		µg/L	1	07/31/2016 8:41 AM	38705

Client Sample ID: DES PLAINES 2

Matrix: DRINKING WATER

Lab ID: 1607O08-002

Date Received: 07/29/2016 10:31 AM

Collection Date: 07/28/2016 12:03 PM

Parameter	Result	Report		Qual.	Units	Dilution		Batch ID
		MCL	Limit			Factor	Date Analyzed	
METALS BY ICPMS								
				Method: EPA-200.8-Rev 5.4, 1994			Analyst: jmk	
Copper	ND	1,300	100		µg/L	1	07/31/2016 8:43 AM	38705
Lead	ND	15.0	5.00		µg/L	1	07/31/2016 8:43 AM	38705

Client Sample ID: SKOKIE 1

Matrix: DRINKING WATER

Lab ID: 1607O08-003

Date Received: 07/29/2016 10:31 AM

Collection Date: 07/28/2016 12:06 PM

Parameter	Result	Report		Qual.	Units	Dilution		Batch ID
		MCL	Limit			Factor	Date Analyzed	
METALS BY ICPMS								
				Method: EPA-200.8-Rev 5.4, 1994			Analyst: jmk	
Copper	798	1,300	100		µg/L	1	07/31/2016 8:45 AM	38705
Lead	ND	15.0	5.00		µg/L	1	07/31/2016 8:45 AM	38705

Client Sample ID: SKOKIE 2

Matrix: DRINKING WATER

Lab ID: 1607O08-004

Date Received: 07/29/2016 10:31 AM

Collection Date: 07/28/2016 12:09 PM

Parameter	Result	Report		Qual.	Units	Dilution		Batch ID
		MCL	Limit			Factor	Date Analyzed	
METALS BY ICPMS								
				Method: EPA-200.8-Rev 5.4, 1994			Analyst: jmk	
Copper	496	1,300	100		µg/L	1	07/31/2016 8:47 AM	38705
Lead	ND	15.0	5.00		µg/L	1	07/31/2016 8:47 AM	38705



Suburban Laboratories, Inc.

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

PREP DATES REPORT

Client: Hygieneering, Inc.
Project: Oakton Community College Drinki

Report Date: August 04, 2016
Lab Order: 1607O08

Sample ID	Collection Date	Batch ID	Prep Method	Prep Test Name	TCLP Date	Prep Date
1607O08-001A	7/28/2016 12:00:00 P	38705	TURB_METALS	Turbidity Check		7/30/2016
1607O08-002A	7/28/2016 12:03:00 P	38705	TURB_METALS	Turbidity Check		7/30/2016
1607O08-003A	7/28/2016 12:06:00 P	38705	TURB_METALS	Turbidity Check		7/30/2016
1607O08-004A	7/28/2016 12:09:00 P	38705	TURB_METALS	Turbidity Check		7/30/2016



Qualifiers:

*/x	Value exceeds Maximum Contaminant Level
B	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in SLI scope of accreditation
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 compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank



SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Ste 150, Geneva, IL 60134

Tel. 708.544.3260

Fax: 708.544.8587

Toll Free: 800.783.LABS

www.suburbanlabs.com

CHAIN OF CUSTODY RECORD

#

131080

Company Name: Hypocrite, Inc
Company Address: 7525 Plaza Ct
City: Chicago State: IL Zip: 60504

Phone: 630-654-2558 Fax: Fax Report
Email Address: Final Report will be emailed

Project ID / Location: Oakton Community College
Project Manager (Report to): Pat Anderson
Sample Collector(s) Name: Anthony Kennedy

SAMPLE IDENTIFICATION
Use One Line Per Preservation & Container Type

1	2	3	4	5	6	7	8	9	10	11	12	COLLECTION		MATRIX	GRAB/COMP.	QTY	CONTAINERS SIZE & TYPE	PRESERVATIVE	ANALYSIS & METHOD REQUESTED Enter an "X" in box below for request	Shipping Method
												DATE	TIME							
1	Des Plaines 1	7/28/16	11:00																	
2	Des Plaines 2	7/28/16	16:03																	
3	Skokie 1	7/28/16	16:09																	
4	Skokie 2	7/28/16	16:09																	
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX: Drinking Water (DWA), 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), NaTlto

COMMENTS & SPECIAL INSTRUCTIONS:

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: [Signature] Date: 7/29/16
2. Relinquished By: [Signature] Date: 10:31

3. Relinquished By: [Signature] Date: [Blank]
4. Relinquished By: [Signature] Date: [Blank]

Received By: [Signature] Time: 10:31 Ice present:
Received By: [Signature] Time: [Blank] Ice present:
Received By: [Signature] Time: [Blank] Ice present:
Received By: [Signature] Time: [Blank] Ice present:
Submitted on samples subject to Terms and Conditions on back. Rev. 07/20/08 Write-Original, Pink-Sampler Copy