

## **Environment Canada Phosphorus and Mercury Proficiency Samples Onondaga Lake Ambient Monitoring Program 2013**

**Prepared by: Janaki Suryadevara, Sanitary Engineer II, OCDWEP  
June 16, 2014**

### **Background**

Environment Canada provides accredited proficiency testing (PT) studies for a wide range of inorganic constituents in water. The purpose of the program is to identify sources of measurement uncertainties and variation among analytical results, and to provide information on overall data quality and reliability. Laboratories from the U.S., Canada, and around the world participate in the PT studies; results were evaluated for precision and systematic bias. The Environment Canada PT Program is comprised of two PT studies, offered on a semi-annual basis, and scheduled in the summer and winter months. The samples are prepared in natural background waters from lakes, rivers or rainwater, and are fortified or preserved as necessary. The trace elements in water samples are generally divided to reflect both low and high concentration ranges. Participating laboratories submit results for parameters they routinely analyze. Since the fall of 2002, the Onondaga County Environmental Laboratory has routinely participated in the PT program for total phosphorus in water. In 2008, the laboratory began participating in the PT program for mercury in water. The County laboratory plans to continue to participate in the Environment Canada PT program.

### **Results – Total Phosphorus**

In 2013, the Onondaga County Environmental Laboratory participated in PT Study 101 (December 2013 to March 2014) and PT Study 0102 (June to September 2013) for total phosphorus analysis (see attached copies of the Environment Canada Proficiency Testing Program Study 0101 and 0102 Laboratory Proficiency Appraisals and z-score summaries).

The performance of the laboratory was rated as “very good” for both PT Studies, which is the highest laboratory performance rating.

### **Results – Total Mercury (low-level)**

In 2013, Onondaga County participated in PT Study 0101 (December 2012 to March 2013) for mercury analyses (see attached copy of the Environment Canada Proficiency Testing Program Study 0101 Laboratory Proficiency Appraisals and z-score summaries).

The performance of the laboratory was rated as “very good” for this PT Study, which is the highest laboratory performance rating.



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## *Laboratory Evaluations for FP PT Study 0101*

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**AQC Ref.No.** 1733

**Main Contact** Janaki Suryadevara

**Affiliation** Onondaga County  
Environmental Laboratory

**Address** 7120 Henry Clay Blvd  
Liverpool  
NY 13088  
US

**Telephone** 315 435-5011

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***Laboratory proficiency appraisals and  
z-score summaries for your submitted  
test results are enclosed.***

<b><i>Lab</i></b>	F202
<b><i>RN</i></b>	
<b><i>MI</i></b>	
<b><i>TE</i></b>	
<b><i>TP</i></b>	1
<b><i>TU</i></b>	
<b><i>HG</i></b>	1
<b><i>SED</i></b>	

Friday, March 08, 2013



## Laboratory Proficiency Appraisal

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**Environment Canada Proficiency Testing Program for Inorganic Environmental Substances**

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**FP PT for Total Phosphorus in Water - Study Code 0101**

March-6-2013

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Your laboratory code is F202

Total Phosphorus

Ideal

**The performance of your laboratory is rated as "very good"**



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## Z-Score Summary

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### Environment Canada Proficiency Testing Program for Inorganic Environmental Substances

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FP PT for Total Phosphorus in Water - Study Code 0101

March-6-2013

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Your laboratory code is F202

	1	2	3	4	5	6	7	8	9	10
Total Phosphorus	0.12	0.00	0.31	0.17	-0.15	0.13	0.93	-0.49		

NOTE: Z-Scores are not calculated for test results with "reported" flags (i.e. "<" MDL) or when the number of laboratories (N) with useable test results is  $\leq 5$ .



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## Laboratory Proficiency Appraisal

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### Environment Canada Proficiency Testing Program for Inorganic Environmental Substances

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FP PT for Total Mercury in Water - Study Code 0101

March-6-2013

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Your laboratory code is F202

Mercury

Ideal

The performance of your laboratory is rated as "very good"



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## Z-Score Summary

### Environment Canada Proficiency Testing Program for Inorganic Environmental Substances

FP PT for Total Mercury in Water - Study Code 0101

March-6-2013

Your laboratory code is F202

	1	2	3	4	5	6	7	8	9	10
Mercury	0.41	0.16	0.54	0.27	0.43	0.06	0.10	0.57		0.17

NOTE: Z-Scores are not calculated for test results with "reported" flags (i.e. "<" MDL) or when the number of laboratories (N) with useable test results is  $\leq 5$ .



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# *Laboratory Evaluations for FP PT Study 0102*

***AQC Ref.No.***                    1733

***Main Contact***              Janaki                                Suryadevara

***Affiliation***                    Onondaga County  
    Environmental Laboratory

***Address***                      7120 Henry Clay Blvd  
    Liverpool  
    NY                                      13088  
    US

***Telephone***                315                                435-5011

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## *Laboratory proficiency appraisals and z-score summaries for your submitted test results are enclosed.*

- Lab*                                F202
- RN*
- MI*
- TE*
- TP*                                1
- TU*
- HG*
- SED*

September 16, 2013



## Z-Score Summary

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### Environment Canada Proficiency Testing Program for Inorganic Environmental Substances

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FP PT for Total Phosphorus in Water - Study Code 0102

September-4-2013

Your laboratory code is F202

	1	2	3	4	5	6	7	8	9	10
Total Phosphorus	0.06	0.51	0.55		0.35	0.25			0.02	0.11

NOTE: Z-Scores are not calculated for test results with "reported" flags (i.e. "<" MDL) or when the number of laboratories (N) with useable test results is  $\leq 5$ .



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## Laboratory Proficiency Appraisal

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### Environment Canada Proficiency Testing Program for Inorganic Environmental Substances

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FP PT for Total Phosphorus in Water - Study Code 0102

September-4-2013

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Your laboratory code is F202

Total Phosphorus

Ideal

The performance of your laboratory is rated as "very good"



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