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## **SCHOOL DISTRICT No. 5 (SOUTHEAST KOOTENAY) LEAD IN DRINKING WATER TESTING**

### **2016 Retest Results**

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*File: 3386 SD No 5 Lead in Water 2016*

**Updated:** May 20, 2016

On-site testing for Lead in Drinking Water was carried out in March with Jaffray retest in April, 2016. All observations and conditions herein are respective to these dates.

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## 1.0 Executive Summary

Peak Environmental Ltd. was retained to retest all District 5 schools for Lead in Drinking Water as a follow up to prior tests carried out in 2007 and 2008.

The project scope included the identification of facilities and locations where lead concentrations exceeded regulated MAC as defined by Health Canada, and the provision of recommendations for remediation. Additional sampling was carried out in April 2016 at Jaffray to determine the source of lead contamination in water.

### 1.1 Definitions

- The term *Facility* as used throughout this document refers to the building
- The term *Location* as used throughout this document refers to a room or area within a facility
- Lead concentration in water is measured and presented in milligrams/litre (mg/l)
  - Health Canada's maximum allowable lead concentration in drinking water: 0.010 mg/l

### 1.2 Procedure Overview

1. **Sampling:** Peak Environmental carried out lead in water re-testing during Spring Break in March 2016, which involved the collection of water samples from a pre-determined number of locations and fixtures at the facilities, using the First Flush technique. This technique captures water that has been stagnant in the pipes and fixtures for a minimum period of 8 hours and is therefore considered to be the worst case scenario for lead concentrations. One Second Flush (30 second flush) was also taken at each facility.

Sample locations included drinking water fountains as well as other fixtures which can be used to provide water for drinking and food preparation. Specific examples include, but are not limited to fixtures in staff and home economic rooms and drinking fountains where water is used for direct drinking or to prepare other drinks and foods.

Additional sampling at Jaffray was carried out in response to the high lead concentrations resulting from the March 2016 testing. These results are included in this report.

Water sampling and sample collection was performed as outlined in the US Environmental Protection Agency Quick Guide To Drinking Water Sample Collection

2. **Laboratory analysis:** Maxxam Analytics in Burnaby, BC, an accredited laboratory, carried out elemental analysis on all the water samples to determine lead concentration levels and identify which, if any locations / fixtures exceed the MAC of 0.010 mg/l as established by Health Canada for drinking water. The laboratory results were tabulated and all facilities which had lead levels in excess of the MAC were highlighted.

## **1.2 Results and Recommendations**

Sample results from 2007, 2008 and 2016 indicate lead was only detected during first flush sampling conducted within un-occupied buildings (sampling conducted in 2007 was during the Christmas break and 2016 during spring break). Sampling conducted in 2008, with the building in full occupancy and operation, did not result in any samples with lead levels above the MAC.

Sampling using the First Flush technique found concentrations of lead in drinking water in excess of the MAC of 0.010 mg/l as set by Health Canada in 5 of the facilities tested. 30 second flush sampling resulted in lead concentrations below MAC in all but one of the 5 facilities that had First Flush result above the MAC. Peak Environmental recommends the following:

1. **(All facilities inclusive of Jaffray)** Instruct students and staff to adopt the 10 second flush procedure in all facilities where lead concentrations exceed the MAC.
2. **(Jaffray)** Continue with the custodial flushing of each and all potential drinking water sources for a minimum of 30 seconds every morning, as implemented following the results of the March 2016 testing.
3. **(Jaffray)** Replace the galvanized pipe sections to the extent possible (as has already been scheduled).
4. Additional testing at Jaffray should be carried out after the galvanized pipe replacement project has been completed.

For detailed results and recommendations, please refer to [2.4 Results and Recommendations](#). Tabulated sample results are provided in [Appendix A](#).

## 2.0 School District No. 5 Facilities Lead in Water Testing

### 2.1 Lead in Water Defined

[Health Canada](#) limits the lead content of drinking water to a Maximum Allowable Concentration (MAC) of 0.010 milligrams/litre (mg/l). The [BC Ministry of Environment](#) also limits lead content in drinking water to 0.010 mg/l. Lead can enter drinking water from several sources, including:

- lead from valves or gaskets used in water treatment plants and buildings
- lead used in older distribution mains and service lines
- lead used in a building's pipe jointing compounds, solder joints and fixtures (fountains, faucets / taps)

Soft water (low pH levels) is more conducive to leaching lead from the above mentioned potential sources, and is therefore commonly found to have higher lead content than water with higher pH levels (hard water).

Buildings built before 1986 are likely to have higher lead levels in drinking water than newer buildings constructed with "lead free" plumbing. By 1990 the Canadian National Plumbing Code restricted the use of lead solder in any new plumbing or plumbing repairs used to supply drinking water. In addition to the federal limits, most provinces also have legislation regulating the amount of lead that can be used in drinking water supply plumbing. However, it is important to note that even plumbing and fixtures certified as "lead-free" can legally contain up to 8% lead. These are typically brass or chrome-plated brass faucets or fixtures and can leach significant amounts of lead into the drinking water. Leached lead concentrations are highest immediately after installation of the fixture and diminish over time.

Water from drinking fountains may have higher concentrations of lead than water from nearby taps because they contain more piping, soldered joints and fittings which contribute to lead leaching. In addition, the water usually sits in the fountain for longer periods of time prior to use.

### 2.2 Health Risks

Long-term exposure to even very small amounts of lead is considered harmful, especially to infants, young children and pregnant women. This group is particularly susceptible because their developing bodies are more conducive to absorbing lead. Although symptoms may not be immediately noticeable, long-term exposure can lead to anaemia and damage to the brain and nervous system. Even low levels of lead exposure can adversely affect intellectual and behavioural development, growth and hearing in children. Pregnant women exposed to high levels of lead have a higher incidence of miscarriages and stillbirths. Adults may develop high blood pressure and kidney problems. As lead in drinking water is only one potential source of lead exposure, it is important to minimize this source to the extent possible.

## 2.3 Methodology

### 2.3.1 Sample Collection

Testing for lead in water was carried out using the 'First Flush' sampling technique, providing the worst-case scenario for high lead concentrations. First Flush sampling collects 250 millilitres of water which has been standing in the pipes and fixture for a period of at least 8 hours. No water should be run from the tap prior to collection. This procedure ensures capturing any lead that may have leached into the water from the pipes and / or fixture. One Second Flush (30 second flush) was also taken at each facility.

Sample locations included drinking water fountains as well as other fixtures which can be used to provide water for drinking and food preparation. Of particular interest are staff and home economic rooms where water is used for drinking or food preparation on a regular basis, and also change rooms where students tend to drink water after physical education classes or sporting events.

Additional sampling at Jaffray was carried out in response to the high lead concentrations resulting from the March 2016 testing in an effort to determine the source of the lead contamination. The well water was sampled as close to the source as physically possible with no flush, 30 second flush and 2 minute flush to monitor the change in lead concentrations.

Peak Environmental staff collected the water samples from each facility. Samples were then sent for laboratory analysis of lead content in water. All samples were tracked from time of collection to point of reporting using chain-of-custody documentation.

### 2.3.2 Sample Analysis

Laboratory analysis was carried out by Maxxam Analytics in Burnaby, BC, which is accredited by the Canadian Association for Laboratory Accreditation (CALA). Maxxam bases their quality management system on ISO/IEC 17025, 'General Requirements for the Competence of Calibration and Testing Laboratories'.

Samples were analyzed for lead content using ICPMS (Inductively Coupled Plasma Mass Spectrometry), a technique used for elemental analysis. The ICP source converts the atoms of the elements in the sample to ions. These ions are then separated and detected by the mass spectrometer. ICPMS is considered to have lower detection limits than other elemental analysis techniques.

## 2.4 Results and Recommendations

Sample results for School District No. 5 are provided in [Appendix A](#) of this report. To interpret the results, please note the following:

- Lead concentration values are provided in mg/l (milligrams per litre)
- Highlighted entries indicate locations where lead in water concentrations exceed the Canadian MAC guideline of 0.010 mg/l
- The Reported Detection Limit (RDL) for the sample analysis was 0.0010; sample results below this RDL are denoted as '<0.0010'

Sample analysis found lead in water concentrations exceeded the MAC of 0.010 mg/l in 5 of the facilities tested – Mt Baker, Laurie, Amy Woodland, Steeples and Jaffray. The analysis was carried out during spring break resulting in the worst case scenario highest lead results because the water was stagnant in the pipes and faucets for a longer period of time that if the facilities had been fully occupied.

A review of the two previous tests (Dec 2007 and March 2008) indicates that testing during a school break when the school is relatively unoccupied, results in higher lead concentrations than testing while school is in session and fully occupied. The December 2007 and March 2016 tests were both carried out during school breaks (Winter and Spring respectively), and resulted in some of the schools having lead concentrations above 0.010 mg/l while the March 2008 test was carried out while schools were in session and resulted in none of the schools showing lead concentrations above 0.010 mg/l.

2016 Results showed a pattern of lead concentrations being lower after the 30 second flush (except at Jaffray), therefore it is suspected that the lead is leaching into the water from the fixtures and not from piping to or within the school.

The March 2016 results at Jaffray showed lead concentration levels above 0.010 mg/l in 3 of the 4 samples taken. The 30 second flush results were higher than the first flush results. Additional sampling was carried out at Jaffray in an effort to determine the source of the lead contamination. Samples were taken from as close to the well water source as possible, and it was further determined that the sample location was approximately 20 feet into the galvanized section of pipe. Results showed the first flush water contained lead concentrations above the MAC while the 30 second and 2 minute flushes resulted in concentrations well below the MAC. The filtered water results were below the level of detection for lead in water. Based on these follow-up results for Jaffray, the source of the lead contamination is the galvanized pipe and not the well water itself. The fact that running the water lowers the lead concentration indicates that the water is contaminated as it sits in the galvanized pipes.

**RECOMMENDATIONS:**

1. **(All facilities inclusive of Jaffray)** Instruct students and staff to adopt the 10 second flush procedure in all facilities where lead concentrations exceed the MAC. Run water through the fixture (fountain or tap) for 10 seconds before drinking it or collecting it for consumption. This includes water for immediate consumption, for storage for later consumption and for use in food preparation (coffee, foods, juices, etc.). Also, always use water from the cold water tap, never from the hot water tap (except in case of emergency).
2. **(Jaffray)** Continue with the custodial flushing of each and all potential drinking water sources for a minimum of 30 seconds every morning, as implemented following the results of the March 2016 testing.
3. **(Jaffray)** Instruct students and staff to primarily use the filtered drinking water fountains for all water that will be consumed. Continue with the regular morning flushing of the system that has been implemented after the March 2016 results were reviewed. As with all other facilities, instruct students and staff that if they do use the regular faucets/fountains, they should adopt the 10 second flush procedure.
4. **(Jaffray)** Replace the galvanized pipes to the extent possible (as is already in the plans).
5. **(Jaffray)** Re-test water system upon the completion of remedial work.

Additional points to consider:

- Always use flushed, cold water for any consumption (do not use water from the hot water tap for consumption - except in case of emergency)
- While providing safety instruction (fire, earthquake, etc.) to students, include information regarding the flushed, cold water safety policy
- Inform all staff (administrative, teaching, janitorial, volunteer, etc) of the flushed, cold water safety policy
- Remind students and staff of the policy by:
  - Posting signs above fixtures (fountains and faucets / taps)
  - Include pictures or diagrams in the signs for elementary students or ESL students and staff members

### 3.0 Limitations

This report is for the purpose of identifying, locating and quantifying to the highest level of accuracy possible under current collection and analysis technologies, the presence of lead in water. Representative sampling was carried out for lead in each facility and the values recorded are extrapolated across the facility. It is possible however, for locations not tested to have values above those recorded for the facility. Therefore, all sample values cited are valid for the specific time and location of their collection. Peak Environmental Ltd. accepts no liability for concentrations in untested locations or for changes in concentration since the time of testing.

Peak Environmental Ltd.

Report Review



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File: 3386 SD No 5 Lead in Water 2016

Attachments: Maxxam Analytics Certificate of Analysis

This report has been prepared for the sole use of School District No. 5 (Southeast Kootenays). The conclusions and recommendations presented in this report are the best judgment of the author. In the event that this report is provided to a third party without the written consent of Peak Environmental Ltd., any use that a third party makes of this report, or any reliance on the decisions made based on this report, are the sole responsibility of that third party. Peak Environmental Ltd., accepts no responsibility for damages, should any occur, that are suffered by any third party as a result of decisions made or actions taken based on this report.



**APPENDIX A**  
**LEAD IN WATER CONCENTRATIONS**



Appendix A Lead Test Results for School District No. 5 Facilities

		INITIAL TESTING DECEMBER 21, 2007			RE-TESTING MARCH 12, 2008		RE-TESTING MARCH, 2016			
AREA	FACILITY	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 1	SAMPLE 2	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
CRANBROOK	Mount Baker	#27 15:15 Custodial Room N	#28 15:15 Custodial Room S	#29 15:20 Custodial Rm West	#25 16:49 Home Economics	#26 16:58 Room 100	OI3597 Fountain Rm 119	OI3598 Staff Rm	OI3599 Staff Rm Sink 30 sec	OI3600 Fountain SE Main Hall
		0.0283	0.0089	0.0136	0.0019	0.0039	0.00549	0.0106	0.00325	0.00432
	Parkland	#48 09:13 1st Floor Foods Room	#49 09:20 2nd Flr Custodial Rm	-	#15 15:26 Staff Room	#16 15:30 Wood Shop	OI3567 1st Floor Foods	OI3568 1st Floor Foods 30 sec	OI3569 2nd Floor Science #236	
		0.0111	0.0028		<0.0010	<0.0010	0.00292	0.00049	0.00343	
	Laurie	#46 08:53 Custodial Room West	#47 08:59 2nd Flr Custodial Rm	-	#23 16:36 Room 11	#24 16:40 Staff Room	OI3601 Staff Rm Sink	OI3602 Fountain 2nd Fl SE Hall	OI3603 Fountain 2nd Fl SE Hall 30 sec	OI3604 Fountain 1st Fl
		0.0508	0.0393		0.0022	<0.0010	0.00072	0.0122	0.00553	0.00354
	Amy Woodland	#38 08:00 West Boys Washroom	#39 08:06 Staff West Washroom	-	-	-	OI3584 Fountain by Staff Rm	OI3585 Fountain by Staff Rm 30 sec	OI3586 Fountain by Library	
		0.0069	0.0063				0.0102	0.00241	0.00521	
	Muriel Baxter	#44 08:42 Custodial Rm @ B Chng	#45 08:46 Daycare Bathroom	-	#27 09:57 Staff Room	#28 10:02 Northeast Fountain			N/A	
		0.0141	0.0178		<0.0010	0.0046				
	Steeple	#25 14:50 North Custodial Room	#26 14:53 Main Custodial Room	-	-	-	OI3605 N Fountain	OI3606 Staff Rm Sink	OI3607 Staff Rm Sink 30 sec	
		0.0099	0.0075				0.0196	0.00527	0.00284	
Gordon Terrace	#36 07:48 Staff Washroom	#37 07:51 2nd Flr Girls Washroom	-	#17 15:40 Staff Room	#18 15:42 Classroom 15	OI3570 2nd Fl Fountain	OI3571 2nd Fl Fountain 30 sec	OI3572 3rd Fl Boys WC		
	0.0121	0.0094		0.0029	0.0024	0.00794	0.01	0.00742		
Kootenay Orchards	#41 08:18 Kitchen	#40 08:16 Boys Change Room	-	#19 16:00 Kitchen	#20 16:06 Room 3	OI3587 Kitchen Sink	OI3588 Kitchen Sink 30 sec	OI3589 Kindergarten Sink		
	0.0414	0.0052		<0.0010	0.0018	0.00254	0.00079	0.00076		
Pinewood	#33 07:32 Boys Washroom	#32 07:26 Staff Room	-	#11 14:51 Girls Washroom	#12 14:54 Classroom No. 2	OI3608 Fountain @ Staff Rm	OI3609 Fountain @ Staff Rm 30 sec	OI3610 Fountain		
	0.0196	0.0043		<0.0010	0.0012	0.00288	0.00226	0.00431		
Highlands	#42 08:30 Staff Room	#43 08:31 Boys Change Room	-	#21 16:16 Staff Room	#22 16:19 Student Services	OI3590 SE Fountain	OI3591 SE Fountain 30 sec	OI3592 Staff Rm Sink		
	0.0358	0.0026		0.0026	0.0020	0.00207	0.00181	0.00252		
TM Roberts	#35 07:40 Staff Washroom	#34 07:38 Staff Room	-	#13 15:06 Staff Room	#14 15:13 Classroom No. 12	OI3563 Staff WC	OI3564 Staff WC 30 sec	OI3565 Fountain by Staff Rm	OI3566 Filtered Fountain	
	0.0328	0.0065		0.0012	<0.0010	0.00444	0.00123	0.00401	<0.0002	
Cranbrook Board Office	#31 07:13 2nd Flr Woman Washroom	#30 07:11 Board Room	-	#9 14:37 Staff Room	#10 14:41 Male Washroom 1st Flr	OI3611 Kitchen/ Boardrm 1	OI3612 Kitchen/Boardrm 1 30 sec	OI3613 Kitchen/Boardrm 2	OI3614 Upstairs Lunchroom	
	0.0287	0.0048		0.0011	<0.0010	0.00228	0.00084	0.0028	0.00498	
JAFFRAY GRASMERE	Jaffray	#22 12:45 Custodial Room	#23 12:50 Science Lab	#24 12:53 Portable Girls Washroom	#7 13:30 Home Economic Room	#8 13:33 Staff Room	OI3593 Science Lab	OI3594 Science Lab 30 sec	OI3595 Concession Sink	OI3596 Fountain E
		0.0217	0.043	0.0053	0.0024	<0.0010	0.0532	0.135	0.115	0.00291
	Jaffray Well Test	-	-	-	-	-	OL6275 Boys WC	OL6276 Boys WC 30 sec	OL6277 Boys WC 2 min	Filtered Fountain
						0.0114	0.001	0.0007	<0.0002	
Grasmere	#21 11:26 Custodial Room	-	-	-	-			N/A		
	0.0031									

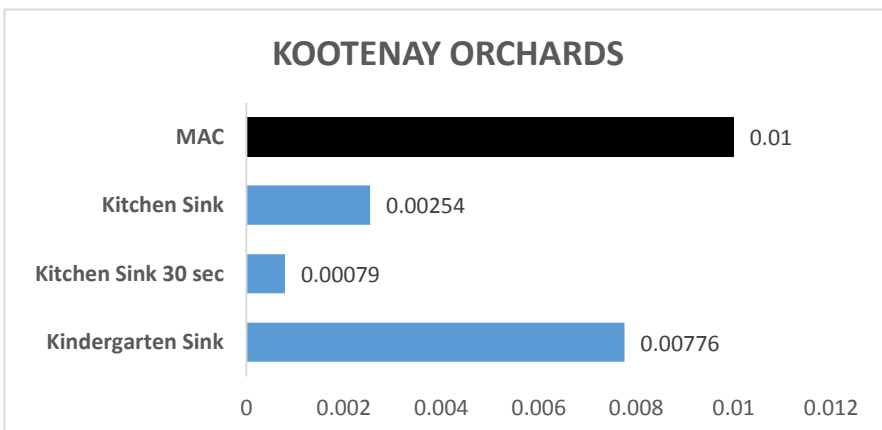
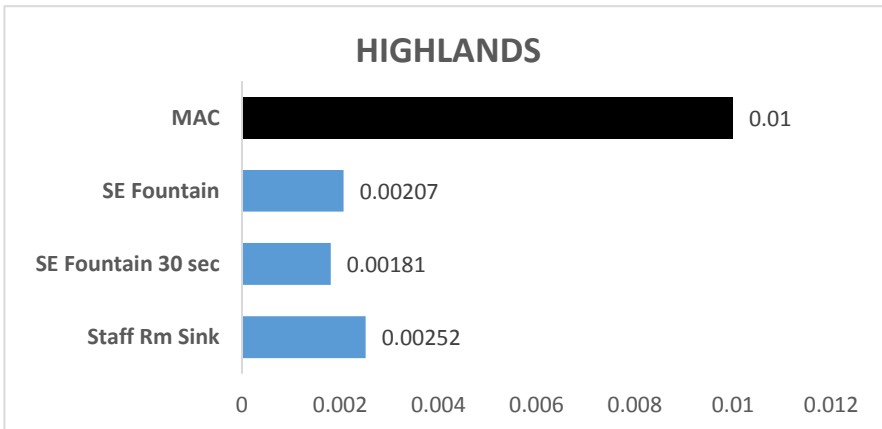
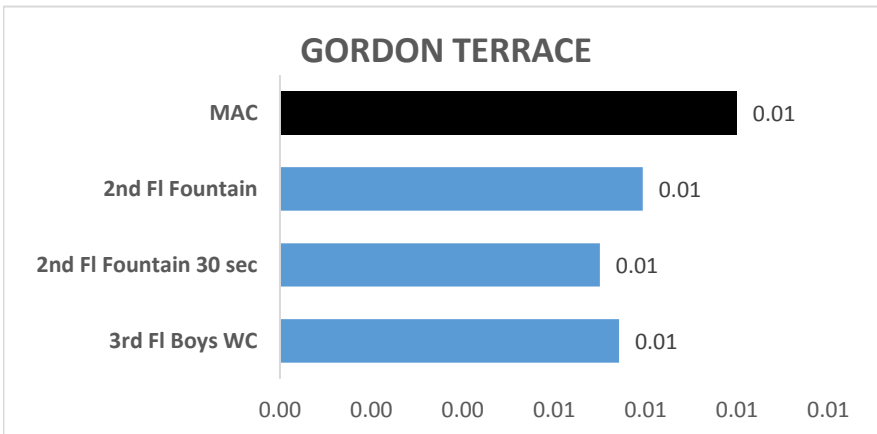
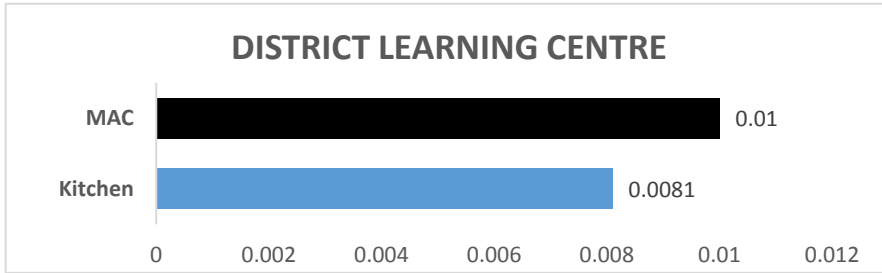
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 Highlighted results indicate values in excess of Health Canada MAC of .01 mg/l  
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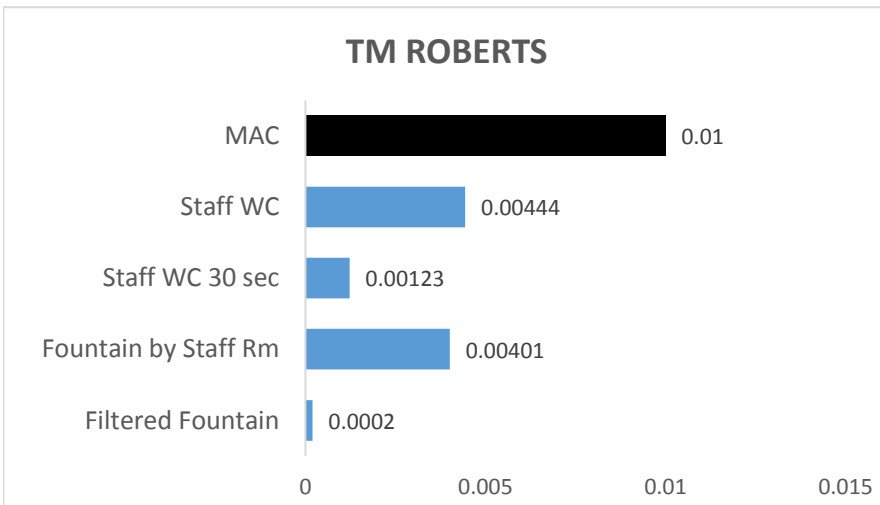
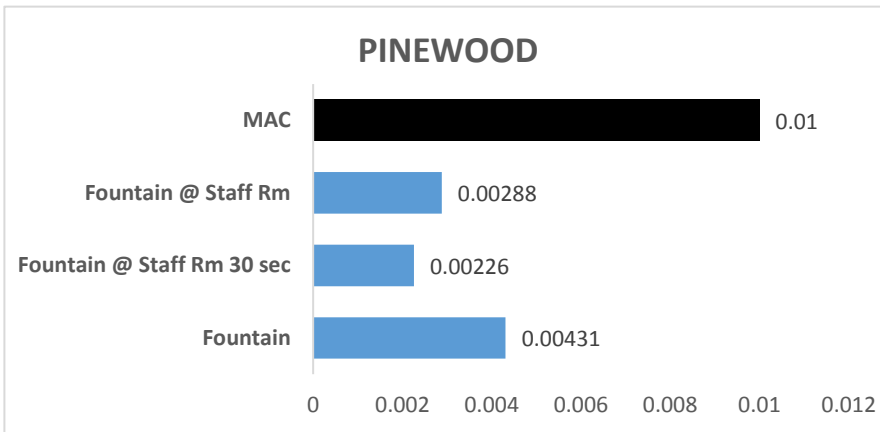
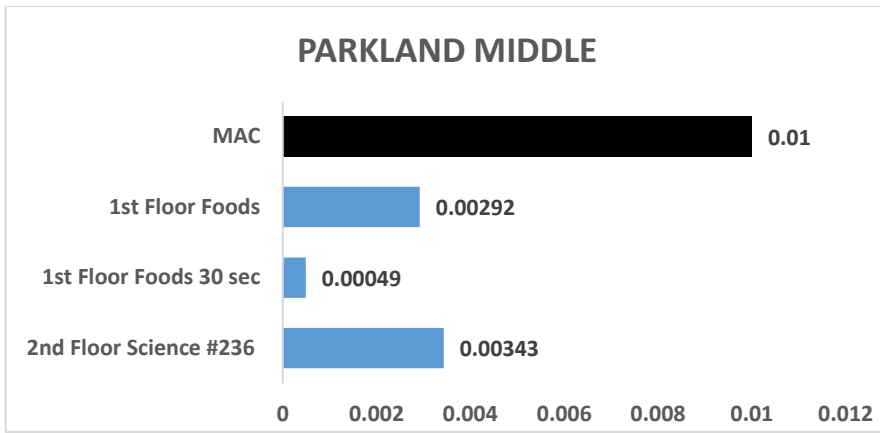
Appendix A Lead Test Results for School District No. 5 Facilities

INITIAL TESTING DECEMBER 21, 2007					RE-TESTING MARCH 12, 2008		RE-TESTING MARCH, 2016			
AREA	FACILITY	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 1	SAMPLE 2	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
FERNIE	Fernie Board Office & Mtc Shop	#12 08:48 Maintenance Lunch Rm	#13 08:00 Board Office Washroom	-	-	-	OI3615 Lunchroom	OI3616 Lunchroom 30 sec		
		0.0052	0.0029				0.0008	0.00026		
	Fernie Secondary	#16 09:124 Room 108	#17 09:21 Custodial Closet	#18 09:24 Custodial Room North	#5 12:37 Staff Room	#6 12:41 Cafeteria	OI3621 Rm 104 Foods	OI3622 Staff Rm 30 sec	OI3623 Staff Rm	OI3624 2nd Fl Fountain
		0.0148	0.0104	0.0052	<0.0010	<0.0010	0.00215	0.00049	0.00198	0.00043
	Max Turyk	#19 09:37 Female Staff Washroom	#20 09:42 Boys Washroom @ Gym	-	-	-	N/A			
		0.0867	0.118							
	Isabella Dicken	#14 08:58 Custodial Room	#15 09:07 Male Staff Washroom	-	#3 12:15 Staff Room	#4 12:30 Kitchen @ Gym	OI3617 Staff Rm	OI3618 Fountain @ MWC	OI3619 Fountain @ MWC 30 sec	
		0.0148	0.0121		<0.0010	0.0011	0.00528	0.00247	0.00188	
SPARWOOD	Sparwood Secondary	#06 07:21 Drinking Water Fountain	#07 07:28 Staff Room	-	-	-	OI3625 Staff Rm	OI3626 Home Ec	OI3627 Home Ec 30 sec	OI3628 Art Rm
		0.0028	0.0021				0.00147	0.00113	<0.0002	0.00056
	Mountain View	#11 08:25 East Water Fountain	#10 08:22 Staff Room	-	#1 11:33 East Water Fountain	#2 11:37 East Boys Washroom	N/A			
		0.0252	0.0092		0.0051	0.0011				
	FJ Mitchell	#09 07:49 Drinking Water Fountain	#08 07:41 Staff Room	-	-	-	OI3629 Staff Rm	OI3630 Staff Rm 30 sec	OI3631 Fountain W	
		0.0027	0.0026				0.00174	<0.0002	0.0026	
ELKFORD	Elkford Secondary	#03 06:51 Staff Room	#04 06:52 Girls Washroom	#05 06:53 Girls Washroom West	-	-	OI3632 Staff Rm	OI3633 Fountain @ Rm 131	OI3634 Home Ec	OI3634 Home Ec 30 sec
		0.002	0.0015	0.0024			0.00603	0.00076	0.00183	0.00142
	Rocky Mountain	#01 06:39 Staff Room	#02 06:41 Boys Washroom	-	-	-	OI3636 Fountain @ Staff Rm	OI3637 Fountain @ Staff Rm 30 sec	OI3638 Kindergarten	
		0.0014	0.0037				0.00238	0.00055	0.00295	

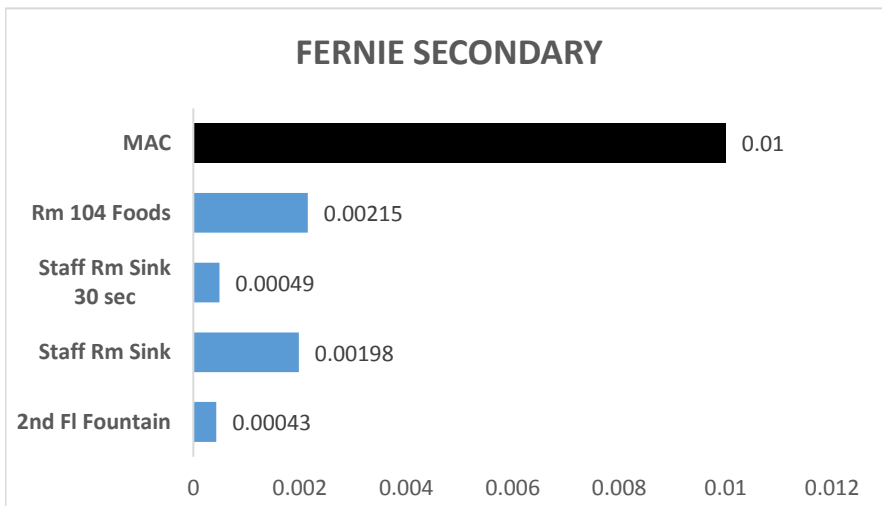
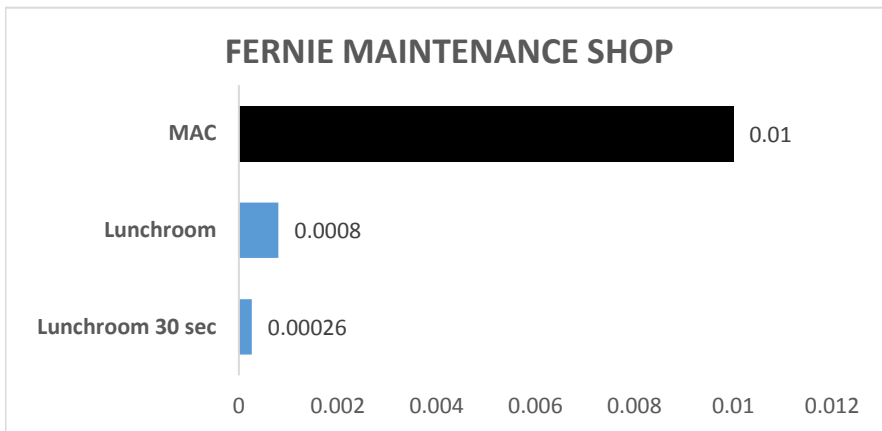
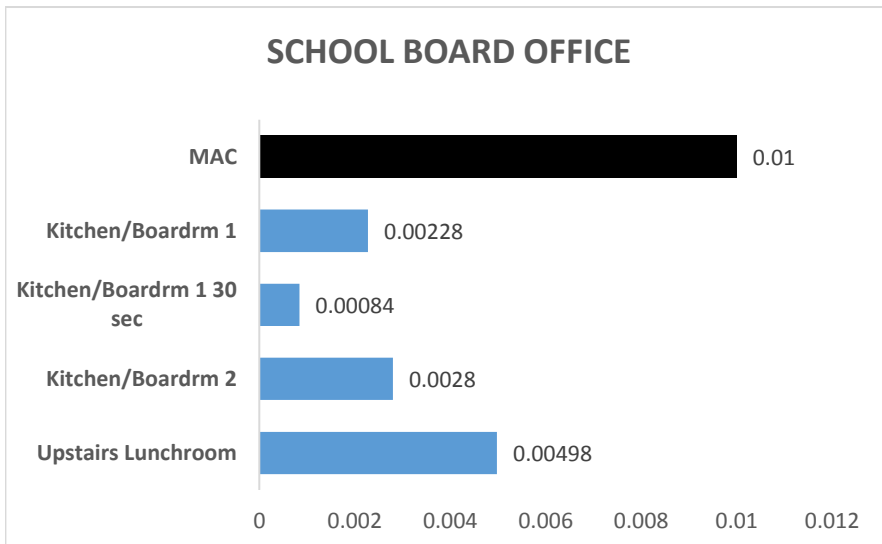
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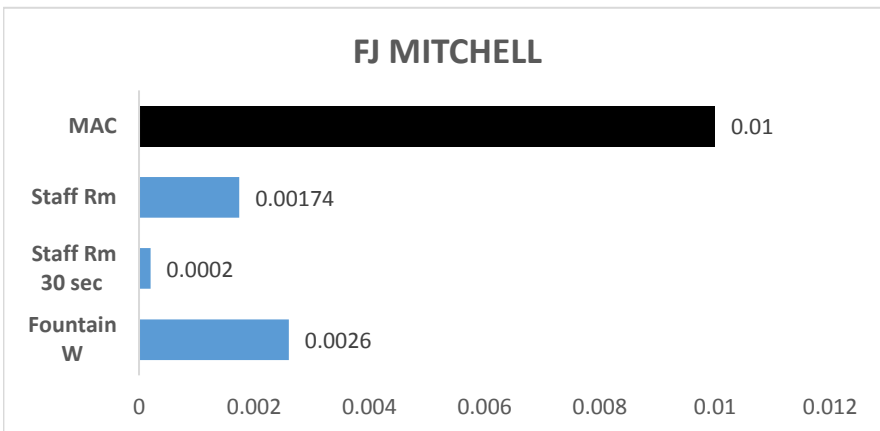
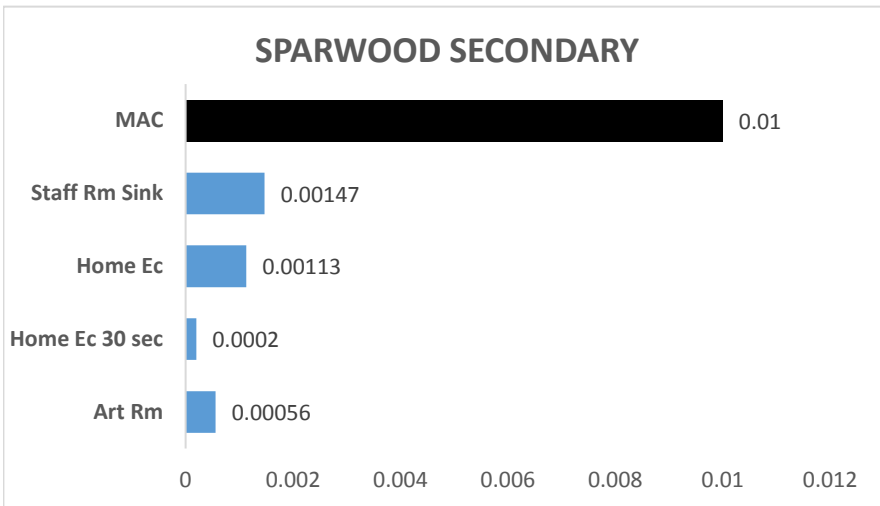
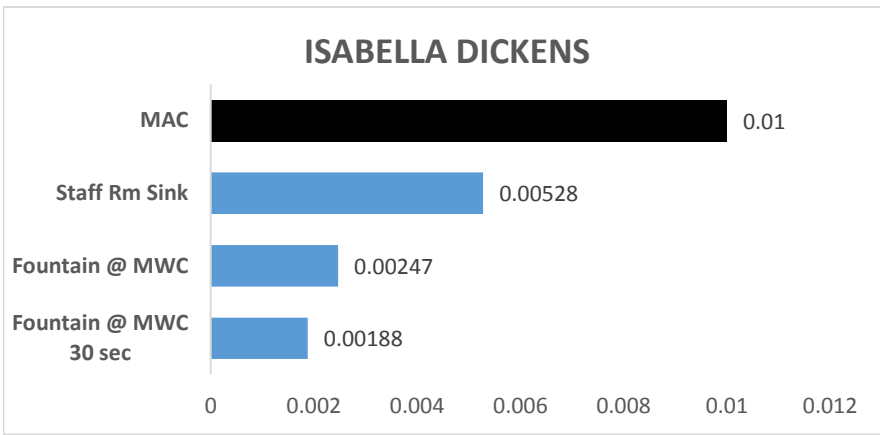
**Lead in Water Results  
Graphic Representation**



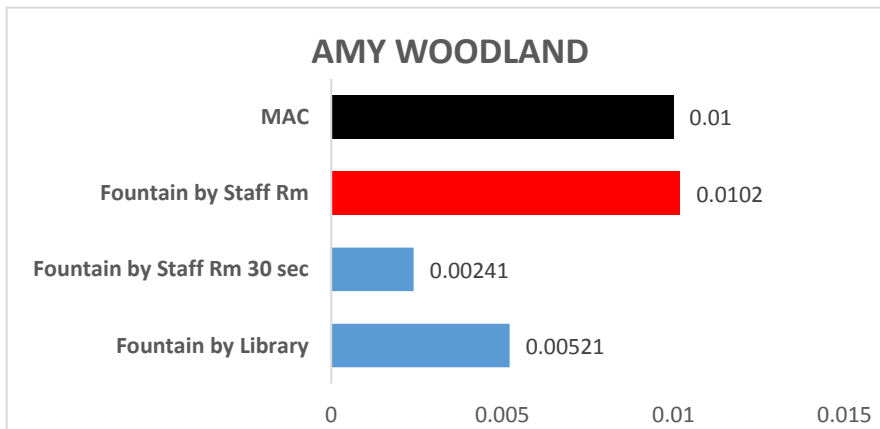
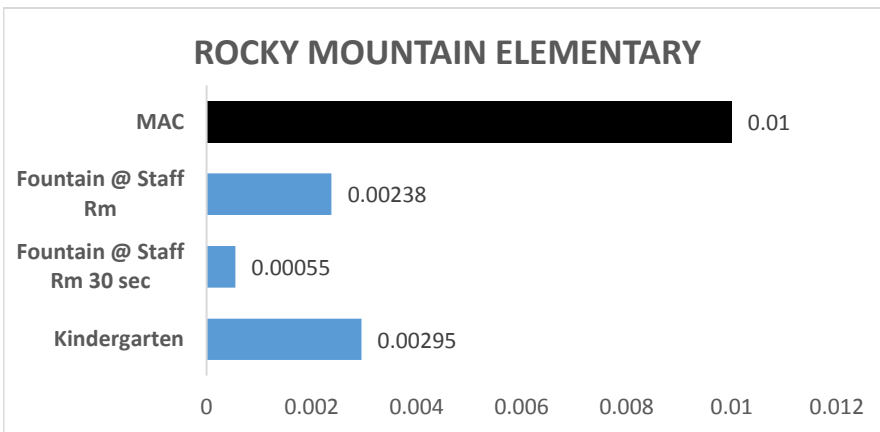
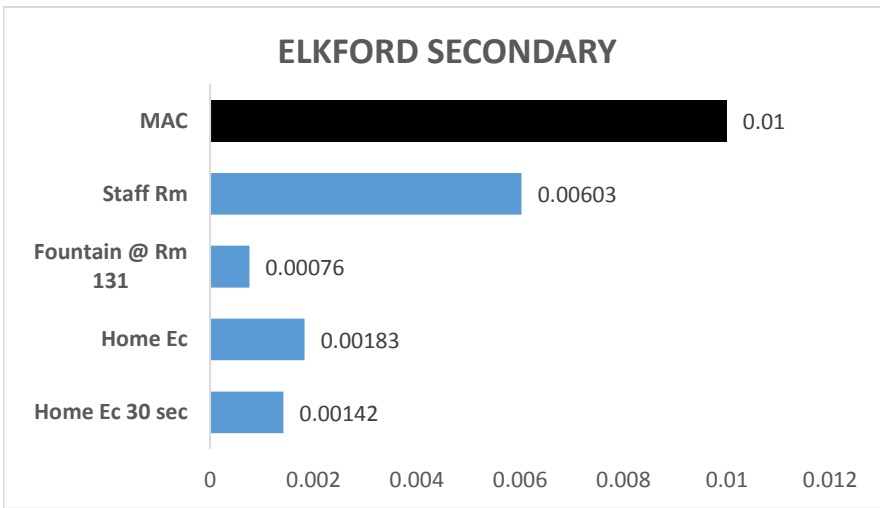
**Lead in Water Results  
Graphic Representation**



**Lead in Water Results  
Graphic Representation**

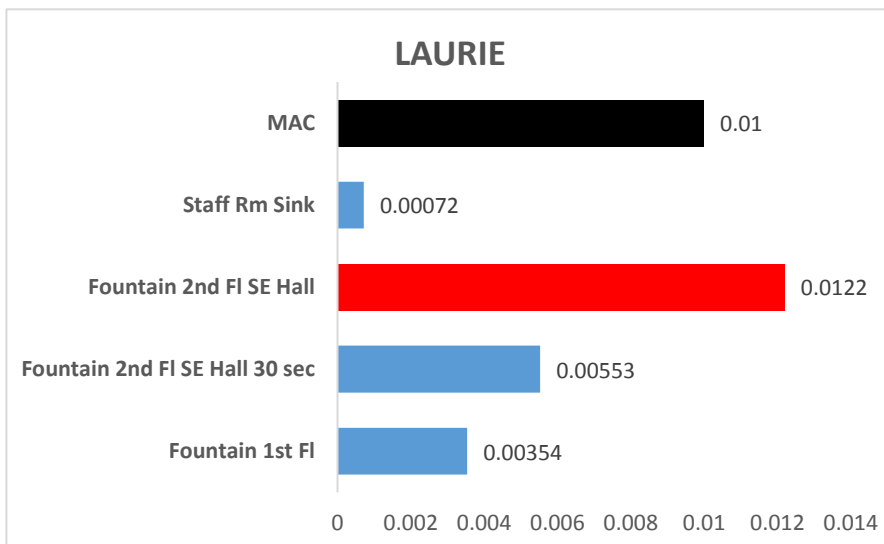
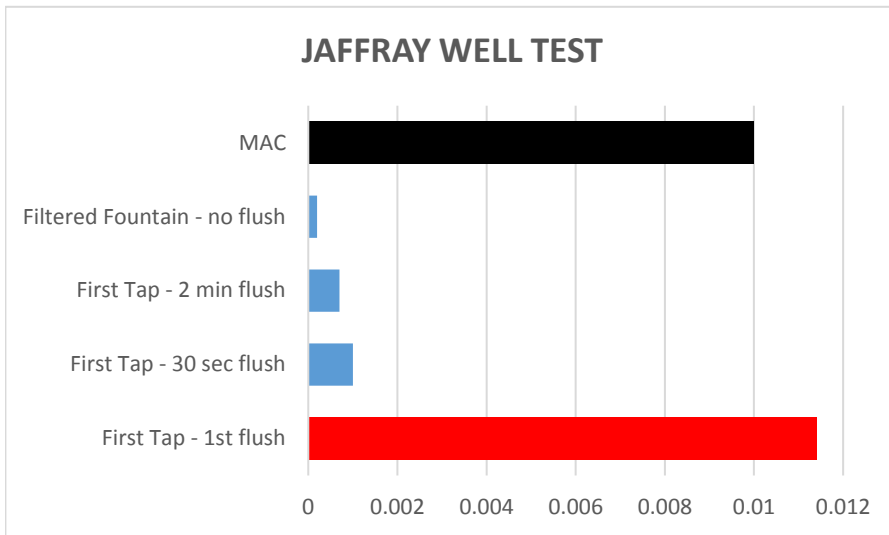
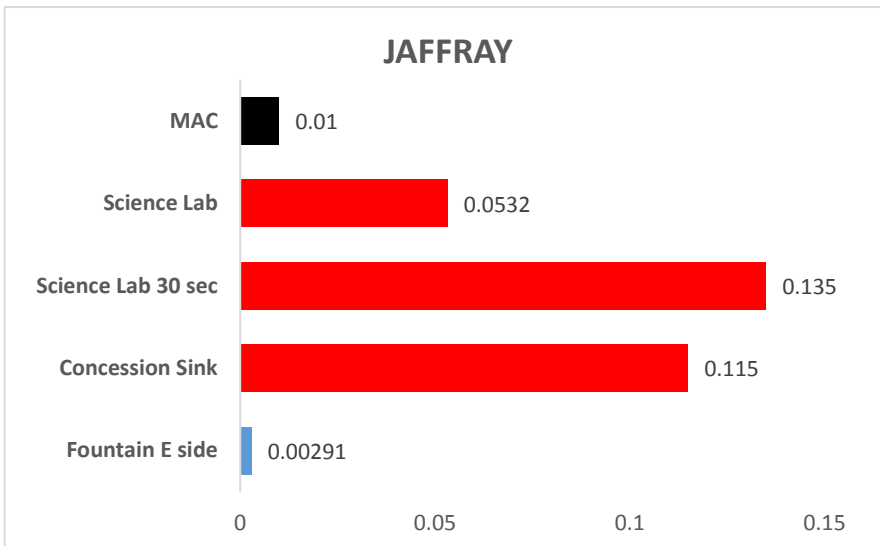


**Lead in Water Results  
Graphic Representation**

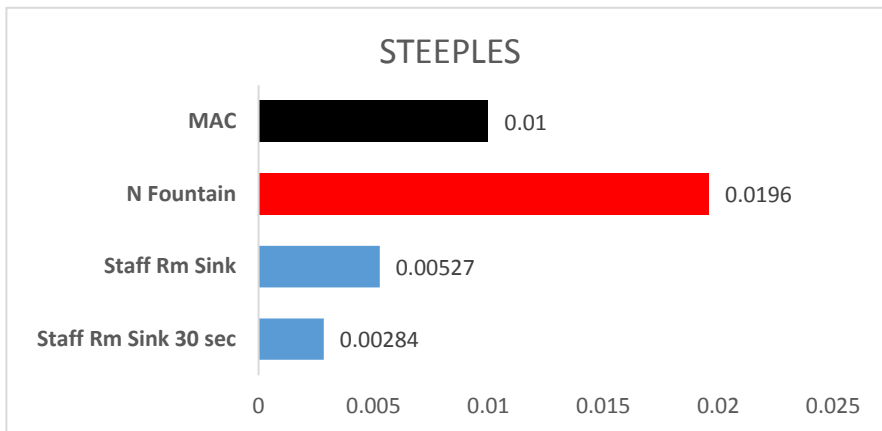
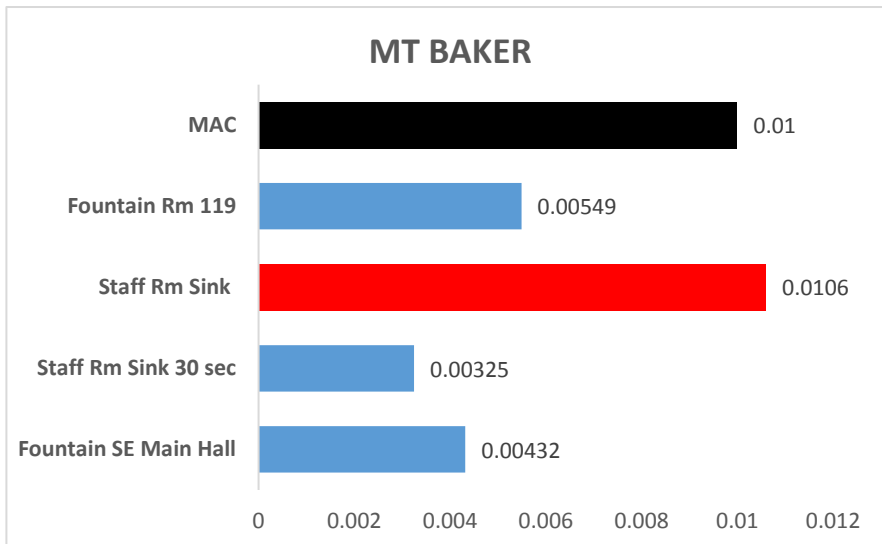




**Lead in Water Results  
Graphic Representation**



**Lead in Water Results  
Graphic Representation**



Your Project #: 3386  
Site Location: SD # 5

**Attention:**  
**ACCOUNTS PAYABLE-STEVE FERGUSO**

Peak Earth and Environmental Consulting Inc.  
951 Pinewood Place  
Kelowna, BC  
Canada V1Z 3G7

Your C.O.C. #: G109331, G109332, G109333, G109334, G109335,  
G109336, G109338, G109339, G109340

**Report Date: 2016/03/30**  
Report #: R2149906  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B621861**

**Received: 2016/03/22, 13:10**

Sample Matrix: DRINKING WATER  
# Samples Received: 85

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
Elements by CRC ICPMS (total)	18	N/A	2016/03/25	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	67	N/A	2016/03/29	BBY7SOP-00002	EPA 6020A R1 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.  
\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Megan Smith, Project Manager  
Email: msmith@maxxam.ca  
Phone# (604) 734 7276

=====  
This report has been generated and distributed using a secure automated process.  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3563	OI3564	OI3565	OI3566		
<b>Sampling Date</b>		2016/03/14 07:35	2016/03/14 07:37	2016/03/14 07:42	2016/03/14 07:43		
<b>COC Number</b>		G109331	G109331	G109331	G109331		
	<b>UNITS</b>	<b>TM ROBERTS STAFF WC</b>	<b>TM ROBERTS STAFF WC</b>	<b>TM ROBERTS FOUNTAIN BY STAFF</b>	<b>TM ROBERTS FILTERED FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	4.44	1.23	4.01	<0.20	0.20	8225411
RDL = Reportable Detection Limit							

<b>Maxxam ID</b>		OI3567	OI3568	OI3569	OI3570	OI3571		
<b>Sampling Date</b>		2016/03/14 07:57	2016/03/14 07:57	2016/03/14 08:04	2016/03/14 08:18	2016/03/14 08:20		
<b>COC Number</b>		G109331	G109331	G109331	G109331	G109331		
	<b>UNITS</b>	<b>PARKLAND MID 1ST FL FOODS</b>	<b>PARKLAND MID 1ST FL FOODS</b>	<b>PARKLAND MID 2ND FL #236 SCIENCE</b>	<b>GORDON TERRACE 2ND FL. FOUNTAIN</b>	<b>GORDON TERRACE 2ND FL. FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	2.92	0.49	3.43	7.94	7.00	0.20 8225411
RDL = Reportable Detection Limit							

<b>Maxxam ID</b>		OI3572	OI3584	OI3585	OI3586	OI3587		
<b>Sampling Date</b>		2016/03/14 08:25	2016/03/14 08:34	2016/03/14 08:36	2016/03/14 08:39	2016/03/14 08:50		
<b>COC Number</b>		G109331	G109332	G109332	G109332	G109332		
	<b>UNITS</b>	<b>GORDON TERRACE 3RD FL. BOYS WC</b>	<b>AMY WOODLAND FOUNTAIN</b>	<b>AMY WOODLAND FOUNTAIN BY STAFF RM</b>	<b>AMY WOODLAND FOUNTAIN BY LIBRARY</b>	<b>KOOTENAY ORCHARDS</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	7.42	10.2	2.41	5.21	2.54	0.20 8225411
RDL = Reportable Detection Limit							

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3588	OI3589		OI3590	OI3591		
<b>Sampling Date</b>		2016/03/14 08:52	2016/03/14 08:55		2016/03/14 10:00	2016/03/14 10:02		
<b>COC Number</b>		G109332	G109332		G109332	G109332		
	<b>UNITS</b>	<b>KOOTENAY ORCHARDS KITCHEN SINK</b>	<b>KOOTENAY ORCHARDS KINDERGARTEN SINK</b>	<b>QC Batch</b>	<b>HIGHLANDS SE FOUNTAIN</b>	<b>HIGHLANDS 2ND FLUSH SE FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>								
Total Lead (Pb)	ug/L	0.79	7.76	8225411	2.07	1.81	0.20	8225412
RDL = Reportable Detection Limit								

<b>Maxxam ID</b>		OI3592	OI3593	OI3594	OI3595	OI3596		
<b>Sampling Date</b>		2016/03/14 10:06	2016/03/14 12:18	2016/03/14 12:20	2016/03/14 12:28	2016/03/14 12:33		
<b>COC Number</b>		G109332	G109332	G109333	G109333	G109333		
	<b>UNITS</b>	<b>HIGHLANDS STAFFROOM SINK</b>	<b>JAFFRAY SCIENCE LAB</b>	<b>JAFFRAY SCIENCE LAB</b>	<b>JAFFRAY CONCESSION SINK</b>	<b>JAFFRAY FOUNTAIN @ E SIDE</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>								
Total Lead (Pb)	ug/L	2.52	53.2	135	115	2.91	0.20	8225412
RDL = Reportable Detection Limit								

<b>Maxxam ID</b>		OI3597	OI3598	OI3599		
<b>Sampling Date</b>		2016/03/14 13:45	2016/03/14 13:50	2016/03/14 13:52		
<b>COC Number</b>		G109333	G109333	G109333		
	<b>UNITS</b>	<b>MOUNT BAKER FOUNTAIN</b>	<b>MOUNT BAKER STAFF RM SINK</b>	<b>MOUNT BAKER STAFF RM SINK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>						
Total Lead (Pb)	ug/L	5.49	10.6	3.25	0.20	8225412
RDL = Reportable Detection Limit						

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3600		OI3601	OI3602	OI3603		
<b>Sampling Date</b>		2016/03/14 13:58		2016/03/14 14:06	2016/03/14 14:11	2016/03/14 14:12		
<b>COC Number</b>		G109333		G109333	G109333	G109333		
	<b>UNITS</b>	<b>MOUNT BAKER FOUNTAIN</b>	<b>QC Batch</b>	<b>LAURIE STAFF RM SINK</b>	<b>LAURIE 2ND FLOOR SE HALL</b>	<b>LAURIE 2ND FLOOR SE HALL</b>	<b>RDL</b>	<b>QC Batch</b>

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	4.32	8225411	0.72	12.2	5.53	0.20	8225412
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RDL = Reportable Detection Limit

<b>Maxxam ID</b>		OI3604		OI3605		OI3606		
<b>Sampling Date</b>		2016/03/14 14:15		2016/03/14 14:24		2016/03/14 14:28		
<b>COC Number</b>		G109334		G109334		G109334		
	<b>UNITS</b>	<b>LAURIE - 1ST FLOOR SE FOUNTAIN</b>	<b>QC Batch</b>	<b>STEEPLES - N FOUNTAIN</b>	<b>RDL</b>	<b>STEEPLES STAFF RM SINK</b>	<b>RDL</b>	<b>QC Batch</b>

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	3.54	8225412	19.6	0.20	5.27	0.40	8225092
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RDL = Reportable Detection Limit

<b>Maxxam ID</b>		OI3607		OI3608		OI3609		
<b>Sampling Date</b>		2016/03/14 14:30		2016/03/14 14:37		2016/03/14 14:38		
<b>COC Number</b>		G109334		G109334		G109334		
	<b>UNITS</b>	<b>STEEPLES STAFF RM SINK</b>		<b>PINEWOOD FOUNTAIN</b>	<b>PINEWOOD FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>	

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	2.84		2.88		2.26	0.20	8225092
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RDL = Reportable Detection Limit

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3610	OI3611	OI3612	OI3613	OI3614		
<b>Sampling Date</b>		2016/03/14 14:40	2016/03/15 07:34	2016/03/15 07:35	2016/03/15 07:39	2016/03/15 07:42		
<b>COC Number</b>		G109334	G109334	G109334	G109334	G109335		
	<b>UNITS</b>	<b>PINEWOOD FOUNTAIN</b>	<b>SD #5 - BOARD OFFICE KITCHEN / BOARDROOM #1</b>	<b>SD #5 - BOARD OFFICE KITCHEN / BOARDROOM #1</b>	<b>SD #5 - BOARD OFFICE KITCHEN / BOARDROOM #2</b>	<b>SD #5 UPSTAIRS LUNCHROOM</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>								
Total Lead (Pb)	ug/L	4.31	2.28	0.84	2.80	4.98	0.20	8225092
RDL = Reportable Detection Limit								

<b>Maxxam ID</b>		OI3615	OI3616	OI3617	OI3618	OI3619		
<b>Sampling Date</b>		2016/03/15 09:20	2016/03/15 09:22	2016/03/15 09:32	2016/03/15 09:35	2016/03/15 09:37		
<b>COC Number</b>		G109335	G109335	G109335	G109335	G109335		
	<b>UNITS</b>	<b>FERNIE MAINTENANCE SHOP</b>	<b>FERNIE MAINTENANCE SHOP</b>	<b>ISABELLA DICKENS SINK</b>	<b>ISABELLA DICKENS FOUNTAIN</b>	<b>ISABELLA DICKENS FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>								
Total Lead (Pb)	ug/L	0.80	0.26	5.28	2.47	1.88	0.20	8225092
RDL = Reportable Detection Limit								

<b>Maxxam ID</b>		OI3620	OI3621	OI3622	OI3623		
<b>Sampling Date</b>		2016/03/15 09:46	2016/03/15 09:56	2016/03/15 09:58	2016/03/15 10:01		
<b>COC Number</b>		G109335	G109335	G109335	G109335		
	<b>UNITS</b>	<b>DISTRICT LEARNING CENTER</b>	<b>FERNIE SECONDARY</b>	<b>FERNIE SECONDARY</b>	<b>FERNIE SECONDARY</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	8.10	2.15	0.49	1.98	0.20	8225096
RDL = Reportable Detection Limit							

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3624	OI3625	OI3626		
<b>Sampling Date</b>		2016/03/15 10:04	2016/03/15 10:36	2016/03/15 10:39		
<b>COC Number</b>		G109336	G109336	G109336		
	<b>UNITS</b>	<b>FERNIE SECONDARY</b>	<b>SPARWOOD SECONDARY</b>	<b>SPARWOOD SECONDARY</b>	<b>RDL</b>	<b>QC Batch</b>

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	0.43	1.47	1.13	0.20	8225096
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RDL = Reportable Detection Limit

<b>Maxxam ID</b>		OI3627	OI3628	OI3629	OI3630		
<b>Sampling Date</b>		2016/03/15 10:40	2016/03/15 10:44	2016/03/15 10:49	2016/03/15 10:50		
<b>COC Number</b>		G109336	G109336	G109336	G109336		
	<b>UNITS</b>	<b>SPARWOOD SECONDARY</b>	<b>SPARWOOD SECONDARY</b>	<b>F.J. MITCHELL</b>	<b>F.J. MITCHELL</b>	<b>RDL</b>	<b>QC Batch</b>

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	<0.20	0.56	1.74	<0.20	0.20	8225096
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RDL = Reportable Detection Limit

<b>Maxxam ID</b>		OI3631	OI3632	OI3633	OI3634		
<b>Sampling Date</b>		2016/03/15 10:55	2016/03/15 11:36	2016/03/15 11:39	2016/03/15 11:44		
<b>COC Number</b>		G109336	G109336	G109336	G109338		
	<b>UNITS</b>	<b>F.J. MITCHELL FOUNTAIN</b>	<b>ELKFORD SECONDARY</b>	<b>ELKFORD SECONDARY FOUNTAIN</b>	<b>ELKFORD SECONDARY - HOME EC</b>	<b>RDL</b>	<b>QC Batch</b>

**Total Metals by ICPMS**

Total Lead (Pb)	ug/L	2.60	6.03	0.76	1.83	0.20	8225096
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RDL = Reportable Detection Limit



Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3635	OI3636	OI3637	OI3638		
<b>Sampling Date</b>		2016/03/15 11:46	2016/03/15 11:54	2016/03/15 11:55	2016/03/15 12:01		
<b>COC Number</b>		G109338	G109338	G109338	G109338		
	<b>UNITS</b>	<b>ELKFORD SECONDARY - HOME EC</b>	<b>ROCKY MOUNTAIN ELEMENTARY</b>	<b>ROCKY MOUNTAIN ELEMENTARY</b>	<b>ROCKY MOUNTAIN ELEMENTARY</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	1.42	2.38	0.55	2.95	0.20	8225096
RDL = Reportable Detection Limit							

<b>Maxxam ID</b>		OI3639	OI3640	OI3641	OI3642	OI3643		
<b>Sampling Date</b>		2016/03/16 07:45	2016/03/16 07:49	2016/03/16 07:51	2016/03/16 08:32	2016/03/16 08:33		
<b>COC Number</b>		G109338	G109338	G109338	G109338	G109338		
	<b>UNITS</b>	<b>MARYSVILLE ELEMENTARY</b>	<b>MARYSVILLE ELEMENTARY FOUNTAIN @ E END OF HALL</b>	<b>MARYSVILLE ELEMENTARY FOUNTAIN @ E END OF HALL</b>	<b>BLARCHMONT ELEM STAFFROOM</b>	<b>BLARCHMONT ELEM STAFFROOM</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>								
Total Lead (Pb)	ug/L	7.86	38.6	8.59	98.2	3.26	0.20	8225408
RDL = Reportable Detection Limit								

<b>Maxxam ID</b>		OI3644	OI3645	OI3646		
<b>Sampling Date</b>		2016/03/16 07:38	2016/03/16 09:12	2016/03/16 09:13		
<b>COC Number</b>		G109339	G109339	G109339		
	<b>UNITS</b>	<b>BLARCHMONT ELEM</b>	<b>MCKIM MIDDLE SCHOOL</b>	<b>MCKIM MIDDLE SCHOOL</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>						
Total Lead (Pb)	ug/L	31.2	1.33	0.38	0.20	8225408
RDL = Reportable Detection Limit						

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3647	OI3648	OI3649	OI3650		
<b>Sampling Date</b>		2016/03/16 09:22	2016/03/16 09:28	2016/03/16 09:49	2016/03/16 09:51		
<b>COC Number</b>		G109339	G109339	G109339	G109339		
	<b>UNITS</b>	<b>MCKIM MIDDLE SCHOOL</b>	<b>MCKIM MIDDLE SCHOOL</b>	<b>KIMBERLEY (CONT ED) INTERNATIONAL</b>	<b>KIMBERLEY (CONT ED) INTERNATIONAL</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	22.0	0.61	56.4	17.8	0.20	8225408
RDL = Reportable Detection Limit							

<b>Maxxam ID</b>		OI3651	OI3652	OI3653	OI3656		
<b>Sampling Date</b>		2016/03/16 09:54	2016/03/16 11:37	2016/03/16 11:43	2016/03/16 11:44		
<b>COC Number</b>		G109339	G109339	G109339	G109340		
	<b>UNITS</b>	<b>KIMBERLEY (CONT ED) INTERNATIONAL</b>	<b>KIMBERLEY MAINTENANCE OFFICE</b>	<b>KIMBERLEY BOARD OFFICE</b>	<b>KIMBERLEY BOARD OFFICE</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	18.5	21.8	6.99	1.69	0.20	8225408
RDL = Reportable Detection Limit							

<b>Maxxam ID</b>		OI3657	OI3658		OI3659		
<b>Sampling Date</b>		2016/03/17 15:33	2016/03/17 15:34		2016/03/17 15:38		
<b>COC Number</b>		G109340	G109340		G109340		
	<b>UNITS</b>	<b>NICHOLSON ELEM STAFF</b>	<b>NICHOLSON ELEM STAFF</b>	<b>QC Batch</b>	<b>NICHOLSON ELEM RM 7</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	8.55	0.91	8225408	91.7	0.20	8225411
RDL = Reportable Detection Limit							

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

**ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)**

<b>Maxxam ID</b>		OI3660		
<b>Sampling Date</b>		2016/03/17 15:42		
<b>COC Number</b>		G109340		
	<b>UNITS</b>	<b>NICHOLSON ELEM HALL FOUNTAIN</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Total Metals by ICPMS</b>				
Total Lead (Pb)	ug/L	7.34	0.20	8225411
RDL = Reportable Detection Limit				

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.7°C
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#### ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER) Comments

Sample OI3606-01 Elements by CRC ICPMS (total): RDL raised due to sample matrix interference.

**Results relate only to the items tested.**

Maxxam Job #: B621861  
Report Date: 2016/03/30

### QUALITY ASSURANCE REPORT

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8225092	Total Lead (Pb)	2016/03/29	98	80 - 120	98	80 - 120	<0.20	ug/L	1.1	20
8225096	Total Lead (Pb)	2016/03/29	NC	80 - 120	102	80 - 120	<0.20	ug/L	1.6	20
8225408	Total Lead (Pb)	2016/03/25	97	80 - 120	103	80 - 120	<0.20	ug/L	NC	20
8225411	Total Lead (Pb)	2016/03/29	97	80 - 120	98	80 - 120	<0.20	ug/L	2.0	20
8225412	Total Lead (Pb)	2016/03/29	97	80 - 120	103	80 - 120	<0.20	ug/L	0.78	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).


NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B621861  
Report Date: 2016/03/30

Peak Earth and Environmental Consulting Inc.  
Client Project #: 3386  
Site Location: SD # 5

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, Data Validation Coordinator

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your C.O.C. #: G109676

**Attention: Stephen Ferguson**

Peak Earth and Environmental Consulting Inc.  
951 Pinewood Place  
Kelowna, BC  
Canada V1Z 3G7

**Report Date: 2016/04/21**

Report #: R2160785

Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B628216**

**Received: 2016/04/15, 08:45**

Sample Matrix: Water  
# Samples Received: 4

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
Elements by CRC ICPMS (total)	4	N/A	2016/04/21	BBY7SOP-00002	EPA 6020A R1 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Megan Smith, Project Manager

Email: msmith@maxxam.ca

Phone# (604) 734 7276

=====  
This report has been generated and distributed using a secure automated process.

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B628216  
Report Date: 2016/04/21

Peak Earth and Environmental Consulting Inc.

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID		OL6275	OL6276	OL6277	OL6278		
Sampling Date		2016/04/11 07:56	2016/04/11 08:00	2016/04/11 08:02	2016/04/11 08:05		
COC Number		G109676	G109676	G109676	G109676		
	UNITS	FIRST TAP (NO FLUSH)	FIRST TAP (30 SEC)	FIRST TAP (2 MIN)	FILTERED FOUNTAIN (NO FLUSH)	RDL	QC Batch
<b>Total Metals by ICPMS</b>							
Total Lead (Pb)	ug/L	11.4	1.08	0.74	<0.20	0.20	8245767
RDL = Reportable Detection Limit							



Maxxam Job #: B628216  
Report Date: 2016/04/21

Peak Earth and Environmental Consulting Inc.

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B628216  
Report Date: 2016/04/21

### QUALITY ASSURANCE REPORT

Peak Earth and Environmental Consulting Inc.

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8245767	Total Lead (Pb)	2016/04/21	99	80 - 120	102	80 - 120	<0.20	ug/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B628216  
Report Date: 2016/04/21

Peak Earth and Environmental Consulting Inc.

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, B.Sc., Scientific Spécialist

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