



CERTIFICATE OF ANALYSIS

Chain of Custody: 634169
Client: Howard County Public School System
Address: 10910 Route 108
Ellicott City, MD 21042
Attention: Jeff Klenk

Job Name: West Friendship Elementary School
Job Location: 12500 Frederick Road, West
Friendship, MD 21794
Job Number: 13.032
P.O. Number: Not Provided

Date Submitted: 03/18/2022
Date Analyzed: 03/28/2022
Report Date: 03/28/2022
Date Sampled: 03/15/2022 - 03/16/2022
Person Submitting: Jeff Klenk
Revised: 03/29/2022 (Revision #1)

Summary of Drinking Water Analysis for Metals

AMA Sample Number	Client Sample Number	Sample Collection Information		Analysis Type	Sample Analyte	Reporting Limit	Final Result	Comments
		Date/Time	Location					
634169-1	WFES 1 Flush	03/16/2022 5:46 am	Faucet, Cold, Consumption, Hallway, , Sink, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	30 ug/L	30.4 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-2	WFES 2 First-Draw	03/15/2022 5:33 am	Drinking Water Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Cafeteria, , Fountain, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-3	WFES 2BW First-Draw	03/16/2022 5:46 am	Bottle Filler/Drinking Fountain Combo Unit - Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Cafeteria, , Bottle Fill Station, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-4	WFES 3 First-Draw	03/16/2022 5:46 am	Faucet, Cold, Consumption, Teachers' Lounge/Break Room, , Sink, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	1.6 ug/L	
634169-5	WFES 5F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubbler Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	3.1 ug/L	
634169-6	WFES 5S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	7.2 ug/L	7.2 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-7	WFES 6F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubbler Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor	Furnace AA	Lead	1 ug/L	2.2 ug/L	



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634169-8	WFES 6S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	5.6 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-9	WFES 8F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	7.7 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-10	WFES 8S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	10 ug/L	10.5 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-11	WFES 9 First-Draw	03/15/2022 5:33 am	Drinking Water Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Hallway, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	1.2 ug/L	
634169-12	WFES 10F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	1.9 ug/L	



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634169-13	WFES 10S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	6.6 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-14	WFES 11F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2 ug/L	2.0 ug/L.
634169-15	WFES 11S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	7.4 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-16	WFES 12F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	1.9 ug/L	
634169-17	WFES 12S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	4.6 ug/L	



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634169-18	WFES 13F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubbler Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	12 ug/L	12.4 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-19	WFES 13S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	13 ug/L	13.2 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-20	WFES 14S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	9.5 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-21	WFES 16F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubbler Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	



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634169-22	WFES 16S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	6.4 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-23	WFES 17F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2.4 ug/L	
634169-24	WFES 17S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	8.7 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-25	WFES 18F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-26	WFES 18S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2.8 ug/L	
634169-27	WFES 19F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-28	WFES 19S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2.9 ug/L	
634169-29	WFES 20F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	



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634169-30	WFES 20S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	3 ug/L	3.0 ug/L.
634169-31	WFES 21F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	1.3 ug/L	
634169-32	WFES 21S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	6.9 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-33	WFES 22F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-34	WFES 22S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2.6 ug/L	
634169-35	WFES 23F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2 ug/L	2.0 ug/L.
634169-36	WFES 23S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	2.9 ug/L	
634169-37	WFES 24F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	1.2 ug/L	



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634169-38	WFES 24S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	6 ug/L	6.0 ug/L. This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-39	WFES 25 First-Draw	03/15/2022 5:33 am	Drinking Water Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Hallway, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-40	WFES 26F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Nurse's Office/Health Room, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-41	WFES 26S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Nurse's Office/Health Room, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	8.2 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-42	WFES 27F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	



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634169-43	WFES 27S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	7.3 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-44	WFES 28F First-Draw	03/15/2022 5:33 am	Combination Sink - Fountain - Bubblers Style (Non-Refrigerated), Consumption, Classroom, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	3.2 ug/L	
634169-45	WFES 28S First-Draw	03/16/2022 5:46 am	Combination Sink - Faucet, Cold, Consumption, Classroom, , Sink, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	8.1 ug/L	This result meets or exceeds the 5.5ppb action level as established by MDE for schools.
634169-46	WFES 29 First-Draw	03/15/2022 5:33 am	Drinking Water Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Hallway, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-47	WFES 31 First-Draw	03/15/2022 5:33 am	Drinking Water Fountain - Cooler/Chiller Style (Refrigerated), Consumption, Hallway, , Fountain, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	
634169-48	WFES 32 First-Draw	03/16/2022 5:46 am	Ice Machine (Stand Alone), Consumption, Cafeteria, , Ice Machine, Main Bldg, 1st Floor		Furnace AA	Lead	1 ug/L	< 1 ug/L	



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Analysis Methods: Flame AA: APHA SM3111B (1999, 22nd Ed.), Furnace AA: APHA SM3113B (2010, 22nd Ed.), ICP: EPA 200.8 (Rev. 5.4)

mg/L = Parts Per Million (ppm), N/A = Not Applicable, µg/L = Parts Per Billion, N/P = Not Provided

Analyst(s): Nida McGarvey

Sample Collector: Jeff Klenk
Certification:

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director George Land

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