AMA Analytical Services, Inc.
Focused On Results.

CERTIFICATE OF ANALYSIS

Maryland Water Quality Lab #262W

NY ELAP 10920

Chain of Custody: 612593
Client: Howard County Public School System
Address: 10910 Route 108
Ellicott City, MD 21042
Attention: Jeff Klenk

Job Name: Centennial Lane ES
Job Location: 3825 Centennial Lane, Ellicott City MD 21042
Job Number: 13.005
P.O. Number: Not Provided

Date Submitted: 01/18/2019
Date Analyzed: 01/25/2019
Report Date: 01/25/2019
Date Sampled: 01/08/2019 - 01/09/2019
Person Submitting: Jeff Klenk
Revised: 01/28/2019 (Revision #2)

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					
612593-1	CLES 4F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-2	CLES 5F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-3	CLES 6 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-4	CLES 7 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-5	CLES 8 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-6	CLES 9F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-7	CLES 12F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-8	CLES 13F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-9	CLES 16F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-10	CLES 18F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-11	CLES 19F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-12	CLES 20F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-13	CLES 21F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-14	CLES 22F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-15	CLES 23F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-16	CLES 24F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-17	CLES 25F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-18	CLES 26F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-19	CLES 27F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	

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612593-20	CLES 28F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-21	CLES 29 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-22	CLES 30 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-23	CLES 32F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-24	CLES 35F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-25	CLES 37F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-26	CLES 40F 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-27	CLES 42 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-28	CLES 43F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-29	CLES 44F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-30	CLES 45F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-31	CLES 48 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-32	CLES 49 1st Draw	01/08/2019 5:19 am	DF/C	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-33	CLES 50F 1st Draw	01/08/2019 5:19 am	CC/B	Furnace AA	Lead	1 ug/L	3.4 ug/L	
612593-34	CLES 1 1st Draw	01/09/2019 5:32 am	KS	Furnace AA	Lead	1 ug/L	16 ug/L	16.1 ug/L
612593-35	CLES 2 1st Draw	01/09/2019 5:32 am	KS	Furnace AA	Lead	1 ug/L	59 ug/L	58.9 ug/L. This sample has an elevated level of lead (above 20.5).
612593-36	CLES 3 1st Draw	01/09/2019 5:32 am	KS	Furnace AA	Lead	1 ug/L	1.9 ug/L	
612593-37	CLES 4S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	1.5 ug/L	
612593-38	CLES 5S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	1.4 ug/L	

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AMA Sample Number	Client Sample Number	Sample Collection Information		Analysis Type	Sample Analyte	Reporting Limit	Final Result	Comments
		Date/Time	Location					
612593-39	CLES 10S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-40	CLES 11S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-41	CLES 14S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-42	CLES 15S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-43	CLES 17 1st Draw	01/09/2019 5:32 am	CR	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-44	CLES 18S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-45	CLES 19S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-46	CLES 20S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-47	CLES 21S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-48	CLES 22S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-49	CLES 23S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-50	CLES 24S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-51	CLES 25S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-52	CLES 26S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	1.7 ug/L	
612593-53	CLES 27S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-54	CLES 28S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	1.8 ug/L	
612593-55	CLES 31 1st Draw	01/09/2019 5:32 am	CR	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-56	CLES 33S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	2.5 ug/L	
612593-57	CLES 34S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	

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AMA Sample Number	Client Sample Number	Sample Collection Information		Analysis Type	Sample Analyte	Reporting Limit	Final Result	Comments
		Date/Time	Location					
612593-58	CLES 36 1st Draw	01/09/2019 5:32 am	OT.7	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-59	CLES 38S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	4.1 ug/L	
612593-60	CLES 39S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-61	CLES 41 1st Draw	01/09/2019 5:32 am	TL	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-62	CLES 43S 1st Draw	01/09/2019 5:32 am	NO	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-63	CLES 44S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	2.1 ug/L	
612593-64	CLES 45S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	< 1 ug/L	
612593-65	CLES 46 1st Draw	01/09/2019 5:32 am	CR	Furnace AA	Lead	1 ug/L	1.7 ug/L	
612593-66	CLES 47 1st Draw	01/09/2019 5:32 am	CR	Furnace AA	Lead	1 ug/L	6 ug/L	
612593-67	CLES 50S 1st Draw	01/09/2019 5:32 am	CC/S	Furnace AA	Lead	1 ug/L	4.8 ug/L	
612593-68	CLES 51 1st Draw	01/09/2019 5:32 am	OT.2	Furnace AA	Lead	1 ug/L	1 ug/L	
612593-69	CLES 52 1st Draw	01/09/2019 5:32 am	KK	Furnace AA	Lead	1 ug/L	370 ug/L	365.6 ug/L. This sample has an elevated level of lead (above 20.5).

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Client:	Howard County Public School System	**Job Location:**	3825 Centennial Lane, Ellicott City MD 21042	**Date Analyzed:**	01/25/2019
Address:	10910 Route 108 Ellicott City, MD 21042	**Job Number:**	13.005	**Report Date:**	01/25/2019
				Date Sampled:	01/08/2019 - 01/09/2019
Attention:	Jeff Klenk	**P.O. Number:**	Not Provided	**Person Submitting:**	Jeff Klenk
				Revised:	01/28/2019 (Revision #2)

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					

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): Suphin Chinnapad

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 Jean-Paul Littleton