850 Poplar Street
Pittsburgh, PA 15220
phone: 412.922.4000
fax: 412.922.4043
intertek.com/building
psiusa.com

June 29, 2017

Deer Lakes School District
19 East Union Road
Cheswick, PA 15024

Attn: Mr. Garry Dixson
Director of Buildings & Grounds/Transportation

Re: Potable Water Lead Screening
Deer Lakes School District
Cheswick, Allegheny County, PA
PSI Project No. 08162768

Dear Mr. Dixson:

In accordance with your request, Professional Service Industries, Inc. (PSI), has conducted a lead water screening of client-defined potable water sources at the Deer Lakes School District facilities. PSI's sampling included 82 drinking fountains, 98 sinks, one (1) ice machine and one (1) hydrant outlet locations in the following buildings at the Deer Lakes School District:

- Deer Lakes High School (27 drinking water fountains, 32 sinks & 1 ice machine)
- Deer Lakes Middle School (12 drinking water fountains & 16 sinks)
- Curtisville Elementary School (34 drinking water fountains & 37 sinks)
- East Union Elementary School (5 drinking water fountains & 6 sinks)
- Bus Garage (2 drinking water fountains & 1 sink)
- Stadium (4 sinks & 1 hydrant)
- Administration (2 drinking fountains & 2 sinks)

PSI was given email authorization on April 11, 2017 to conduct the lead water screening by Mr. Garry Dixson, Director of Buildings & Grounds and Transportation for the Deer Lakes School District referencing PSI Proposal 0816-202640 dated February 21, 2017.

SCOPE

Water samples were collected from the identified potable water outlets selected by the client in the Deer Lakes School District facilities. The samples were collected from one-hundred eighty-two (182) potable water sources, including kitchen sinks, water fountains, hydrants and ice machines. At each site, a "first draw" sample was collected. The number of samples and the sample locations were determined by the client.

METHODOLOGY

PSI's inspector, Michael Kopar, collected a total of one hundred eighty-two (182) "first draw" water samples from potable drinking water outlets on June 8, 2017. The "first draw" water samples were collected directly from water fountains or kitchen sinks (cold water spigots) which had been isolated from service for approximately 8-18 hours. The samples

were collected directly into laboratory-supplied 250 ml bottles containing a nitric (HNO_3) preservative solution.

The samples were packed in a cooler, and transmitted under chain of custody to Pace Analytical Laboratories in Greensburg, PA, which shipped the samples to the Pace Laboratory located at 575 Broad Hollow Road, Melville, NY 11747 for analysis. This laboratory is a PA certified drinking water laboratory (PA Cert # 68-00350) accredited by the PA Department of Environmental Protection (PA DEP). All samples were analyzed for lead content by laboratory method EPA 200.8.

DISCUSSION / REGULATORY GUIDELINES

The samples' lead concentrations were compared to the EPA drinking water recommended 'action level' for lead in Schools drinking water at the tap of 0.020 milligrams per liter (mg/L) or 20 ug/L. The EPA's "Lead and Copper Rule" (LCR) for Public Water suppliers (5CFR26460-26564) established an Action Level of 0.015 mg/L (15 ug/L or 15 ppb) for lead.

Public Water Supply Testing vs. Testing at Schools

- It is important to note that the lead testing protocol used by public water systems is aimed at identifying system-wide problems rather than problems at outlets in individual buildings. Moreover, the protocols for sample size and sampling procedures are different. Under the LCR for public water systems, a lead action level of 15 ppb is established for 1 L samples taken by public water systems at high risk residences. If more than 10 percent of the samples at residences exceed 15 ppb, system-wide corrosion control treatment may be necessary. The 15-ppb action level for public water systems is therefore a trigger for treatment rather than an exposure level.

- EPA recommends that schools collect 250 ml first-draw samples from water fountains and outlets, and that the water fountains and/or outlets be taken out of service if the lead level exceeded 20 ppb. The sample was designed to pinpoint specific fountains and outlets that require remediation (e.g. water cooler replacement). The school sampling protocol maximizes the likelihood that the highest concentrations of lead are found because the first 250 ml are analyzed for lead after overnight stagnation.

Some other local, State (such as NY State), and other agencies have adopted the more conservative lead action level of 15 ug/L (ppb).

CONCLUSIONS

Based on the water sampling results, it appears as though the lead concentrations in the first draw water samples collected at the Deer Lakes School buildings were mostly within the recommended action level. Seven (7) potable water outlets had a lead concentration above the recommended public water supplier Action Level of 15 ppb, with 4 of the outlets having concentrations above the EPA recommended limit for school outlets of 20 ppb.

RECOMMENDATIONS

PSI recommends that the 7 outlets with a concentration exceeding the EPA recommended limit for schools of 20 ppb and the public water supplier limit of 15 ppb be isolated (removed from service) and then re-sampled, including 1st draw and 30-second flush smaples. Pending the follow-up sampling results, these outlets may need to be remediated, including repaired, altered or replaced. PSI also recommends re-sampling the other five (5) potable water outlets that exceeded 10 ppb to verify concentrations.

The EPA recommends that "at a minimum, every outlet that is regularly used for cooking and drinking should be sampled." Periodic, routine testing is recommended. Regular testing can be valuable because it establishes a record of the water quality.

If any changes are made in the plumbing system, PSI recommends testing the outlets prior to regular use.

WARRANTY

The field observations, measurements, and research reported herein are considered sufficient in detail and scope to form for the analysis of the selected water quality parameters. The investigation and conclusions presented herein are based upon the subjective evaluation of limited data. They may not represent all conditions at the subject site as they reflect the information gathered from specific locations. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental investigation methodology and only for the site described in this report.

The water quality sampling and analysis has been developed to provide the client with information regarding select parameter concentrations in the water samples collected at the subject property. It is necessarily limited to the conditions observed and to the information available at the time of the work.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. PSI does not accept responsibility for changes in the state of the art, nor for changes in the regulations. PSI believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

This report for the above referenced property represents the product of PSI's professional expertise and judgment in the environmental and industrial hygiene consulting industry. This report is certified to, can be relied upon by, and has been prepared for the exclusive use of the client.

PSI appreciates you selecting our services for your needs. Please contact us at 412-922-4000 x 383 should you have any questions regarding this report.

Respectfully Submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Michael Kopar, CIE
Project Manager

Joseph L. Kuchnicki, CHMM
Principal Consultant

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Attachments: Drinking Water Sampling Tables
Laboratory Analysis Report & Chain of Custody Records

TABLE 1.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes East Union Elementary School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
EU-W1	WF	WF @ office (Men's)	First Draw	< 1.0
EU-W2	WF	WF @ office (Wom)	First Draw	< 1.0
EU-W3	Sink	Nurse's sink	First Draw	< 1.0
EU-W4	Sink	203 Faculty sink	First Draw	< 1.0
EU-W5	WF	4th grade WF	First Draw	< 1.0
EU-W6	WF	5th grade WF (boys)	First Draw	< 1.0
EU-W7	WF	5th grade WF (girls)	First Draw	< 1.0
EU-W8	**Sink**	**Library sink**	**First Draw**	**22.2**
EU-W9	Sink	Room 300 sink	First Draw	6.6
EU-W10	Sink	Kitchen prep sink	First Draw	< 1.0
EU-W11	Sink	Kit Pots/pans sink	First Draw	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb) or 13,000 ug/L (Cu)

TABLE 2.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Curtisville Elementary School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
CURT-W1	Sink	Faculty lounge	First Draw	< 1.0
CURT-W2	WF	Break Room (lower)	First Draw	< 1.0
CURT-W3	WF	Break Room (upper)	First Draw	< 1.0
CURT-W4	Sink	Kitchen prep sink	First Draw	< 1.0
CURT-W5	Sink	Kitchen pots/pans	First Draw	< 1.0
CURT-W6	Sink	Room 002 sink	First Draw	3.3
CURT-W7	WF	Room 002 fountain	First Draw	< 1.0
CURT-W8	Sink	Room 003 sink	First Draw	2.7
CURT-W9	WF	Room 003 fountain	First Draw	< 1.0
CURT-W10	Sink	Room 005 sink	First Draw	5.5
CURT-W11	WF	Room 005 fountain	First Draw	5.4
CURT-W12	Sink	Room 004 sink	First Draw	1.1
CURT-W13	WF	Room 004 fountain	First Draw	4.8
CURT-W14	Sink	Nurse's sink	First Draw	< 1.0
CURT-W15	WF	Exit 2 fountain (upper)	First Draw	< 1.0
CURT-W16	WF	Exit 2 fountain (lower)	First Draw	< 1.0
CURT-W17	Sink	Room 200 sink	First Draw	1.3
CURT-W18	WF	Room 200 fountain	First Draw	< 1.0
CURT-W19	Sink	Room 201 sink	First Draw	2.9
CURT-W20	WF	Room 201 fountain	First Draw	< 1.0
CURT-W21	Sink	Room 202 sink	First Draw	< 1.0
CURT-W22	WF	Room 202 fountain	First Draw	< 1.0
CURT-W23	Sink	Room 203 sink	First Draw	1.1
CURT-W24	WF	Room 203 fountain	First Draw	< 1.0
CURT-W25	Sink	Room 207 sink	First Draw	1.9
CURT-W26	WF	Room 207 fountain	First Draw	< 1.0
CURT-W27	Sink	Room 205 sink	First Draw	< 1.0
CURT-W28	WF	Room 205 fountain	First Draw	< 1.0
CURT-W29	WF	Across from chiller	First Draw	< 1.0
CURT-W30	Sink	Room 104 sink	First Draw	8.6
CURT-W31	WF	Room 104 fountain	First Draw	< 1.0
CURT-W32	WF	Hall near room 104	First Draw	< 1.0
CURT-W33	Sink	Room 103 sink	First Draw	1.1
CURT-W34	WF	Room 103 fountain	First Draw	< 1.0
CURT-W35	Sink	Room 322 sink	First Draw	< 1.0
CURT-W36	WF	Room 322 fountain	First Draw	< 1.0
CURT-W37	Sink	Room 325 sink	First Draw	< 1.0
CURT-W38	WF	Room 325 fountain	First Draw	<1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 2.0 (Cont)
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Curtisville Elementary School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
CURT-W39	Sink	Room 328 sink	First Draw	2.7
CURT-W40	WF	Room 328 fountain	First Draw	< 1.0
CURT-W41	Sink	Room 331 sink	First Draw	< 1.0
CURT-W42	WF	Room 331 fountain	First Draw	< 1.0
CURT-W43	Sink	Room 334 sink	First Draw	< 1.0
CURT-W44	WF	Room 334 fountain	First Draw	< 1.0
CURT-W45	Sink	Room 317 sink	First Draw	< 1.0
CURT-W46	Sink	Room 312 sink	First Draw	< 1.0
CURT-W47	WF	Room 312 fountain	First Draw	< 1.0
CURT-W48	Sink	Room 309 sink	First Draw	< 1.0
CURT-W49	WF	Room 309 fountain	First Draw	< 1.0
CURT-W50	Sink	Room 306 sink	First Draw	1.3
CURT-W51	WF	Room 306 fountain	First Draw	< 1.0
CURT-W52	Sink	Room 302 sink	First Draw	< 1.0
CURT-W53	WF	Room 302 fountain	First Draw	< 1.0
CURT-W54	Sink	Room 301 sink	First Draw	< 1.0
CURT-W55	WF	Room 301 fountain	First Draw	< 1.0
CURT-W56	Sink	Room 300 sink	First Draw	< 1.0
CURT-W57	WF	Room 300 fountain	First Draw	< 1.0
CURT-W58	Sink	Library sink	First Draw	5.9
CURT-W59	Sink	Room 107B sink	First Draw	19.0
CURT-W60	WF	Room 107B fountain	First Draw	< 1.0
CURT-W61	Sink	Room 100 sink	First Draw	< 1.0
CURT-W62	Sink	Room 107A sink	First Draw	4.6
CURT-W63	**WF**	**Room 107A fountain**	**First Draw**	**45.2**
CURT-W64	Sink	Room 101 sink	First Draw	1.8
CURT-W65	WF	Room 101 fountain	First Draw	< 1.0
CURT-W66	Sink	Room 102 sink	First Draw	10.9
CURT-W67	WF	Room 102 fountain	First Draw	1.8
CURT-W68	Sink	Room 105 sink	First Draw	< 1.0
CURT-W69	WF	Room 105 fountain	First Draw	< 1.0
CURT-W70	Sink	Room 106 sink	First Draw	< 1.0
CURT-W71	WF	Room 106 fountain	First Draw	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 3.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Middle School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
MS-W1	Sink	Nurse's sink (Meds)	First Draw	< 1.0
MS-W2	Sink	Kit Prep w/disposal	First Draw	1.2
MS-W3	Sink	Kit Prep steam ovens	First Draw	5.5
MS-W4	**Sink**	**Kit Braising pan**	**First Draw**	**31.4**
MS-W5	Sink	Kit Big kettle	First Draw	3.2
MS-W6	Sink	Kit little kettle	First Draw	8.4
MS-W7	WF	Room 119 (Band)	First Draw	< 1.0
MS-W8	WF	Gym (Rm 120)	First Draw	< 1.0
MS-W9	WF	Fountain across from gym	First Draw	< 1.0
MS-W10	WF	Fountain across from gym	First Draw	< 1.0
MS-W11	WF	Tech Ed (H)	First Draw	< 1.0
MS-W12	WF	Tech Ed (L)	First Draw	< 1.0
MS-W13	Sink	Room 110 back lab	First Draw	3.9
MS-W14	Sink	Room 111 teachers lab	First Draw	5.5
MS-W15	WF	Rm 117 Boys LR	First Draw	1.0
MS-W16	WF	Rm 215 Girls LR	First Draw	1.2
MS-W17	Sink	Rm 214 Spec. Ed sink	First Draw	< 1.0
MS-W18	WF	Hall outside Rm 216 (H)	First Draw	< 1.0
MS-W19	WF	Hall outside Rm 216 (L)	First Draw	< 1.0
MS-W20	Sink	Rm 220 sink, Spec Ed	First Draw	< 1.0
MS-W21	Sink	Library office Rm 201	First Draw	4.1
MS-W22	Sink	Rm 208/209 prep sink	First Draw	6.5
MS-W23	WF	2nd Fl Home Ec (H)	First Draw	< 1.0
MS-W24	WF	2nd Fl Home Ec (L)	First Draw	< 1.0
MS-W25	Sink	Home Ec # 1	First Draw	< 1.0
MS-W26	Sink	Home Ec # 2	First Draw	< 1.0
MS-W27	Sink	Home Ec # 3	First Draw	< 1.0
MS-W28	Sink	Home Ec # 4	First Draw	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 4.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Administration

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
Admin-W1	WF	Admin water fountain	First Draw	< 1.0
Admin-W2	**Sink**	**Admin sink**	**First Draw**	**31.5**
Admin-W3	WF	Maintenance fountain	First Draw	1.4
Admin-W4	Sink	Maintenance sink	First Draw	3.6

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 5.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Stadium

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
HS-W61	Sink	Football boosters (L)	First Draw	5.1
HS-W62	Sink	Football boosters (R)	First Draw	2.2
HS-W63	Sink	Band boosters (L)	First Draw	7.2
HS-W64	Sink	Band boosters (R)	First Draw	2.6
HS-W65	Hydrant	Stadium hydrant	First Draw	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 6.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes Bus Garage

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
BG-W1	WF	Bus Garage	First Draw	< 1.0
BG-W2	Sink	Break Room sink	First Draw	< 1.0
BG-W3	WF	Maintenance	First Draw	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 7.0
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes High School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
HS-W1	WF	Auditorium LH	First Draw	< 1.0
HS-W2	WF	Auditorium LL	First Draw	< 1.0
HS-W3	WF	Auditorium RH	First Draw	< 1.0
HS-W4	WF	Auditorium RL	First Draw	< 1.0
HS-W5	Sink	Sink in kitchen office	First Draw	4.5
HS-W6	Sink	Special ED sink	First Draw	5.1
HS-W7	Sink	Nurse's sink	First Draw	< 1.0
HS-W8	Sink	Guidance sink	First Draw	4.3
HS-W9	WF	Band entrance (H)	First Draw	< 1.0
HS-W10	WF	Band entrance (L)	First Draw	< 1.0
HS-W11	WF	Band Room	First Draw	< 1.0
HS-W12	WF	Choral	First Draw	< 1.0
HS-W13	Sink	Library office sink	First Draw	1.3
HS-W14	Sink	Rm 112 Home EC sink 1	First Draw	< 1.0
HS-W15	Sink	Rm 112 Home EC sink 2	First Draw	15.4
HS-W16	Sink	Rm 112 Home EC sink 3	First Draw	< 1.0
HS-W17	Sink	Rm 112 Home EC sink 4	First Draw	< 1.0
HS-W18	Sink	Rm 112 Home EC sink 5	First Draw	1.8
HS-W19	Sink	Rm 112 Home EC sink 6	First Draw	2.0
HS-W20	Sink	Rm 112 Home EC sink 7	First Draw	2.2
HS-W21	Sink	Rm 112 Home EC sink 8	First Draw	10.3
HS-W22	Sink	Rm 113 sewing sink	First Draw	2.8
HS-W23	Sink	Rm 111 Life skills sink	First Draw	2.7
HS-W24	Sink	Rm 111 Double bowl	First Draw	< 1.0
HS-W25	Sink	1st Fl. Faculty sink	First Draw	1.1
HS-W26	WF	Exit 9 (H)	First Draw	< 1.0
HS-W27	WF	Exit 9 (L)	First Draw	< 1.0
HS-W28	WF	Shop Hallway	First Draw	< 1.0
HS-W29	WF	Shop 120 Tech Ed	First Draw	< 1.0
HS-W30	WF	1st Fl Elev (H)	First Draw	< 1.0
HS-W31	WF	1st Fl Elev (L)	First Draw	< 1.0
HS-W32	Sink	Kitchen sink, serving line	First Draw	< 1.0
HS-W33	Sink	Kitchen, dish mach A	First Draw	< 1.0
HS-W34	Sink	Kitchen ice machine	First Draw	< 1.0
HS-W35	Sink	Kitchen steam ket 1	First Draw	2.3
HS-W36	Sink	Kitchen steam ket 2	First Draw	7.6
HS-W37	Sink	Kitchen steam Ket 3	First Draw	1.2
HS-W38	Sink	Kitchen steam Ket 4	First Draw	19.5
HS-W39	Sink	Kit Prep by Ice	First Draw	1.9

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

TABLE 7.0 (Cont.)
DRINKING WATER SAMPLES
DEER LAKES SCHOOL DISTRICT
Sample Date: June 8, 2017

Deer Lakes High School

Sample No.	Source	Sample Location	Sample type	Analytical Result (Pb) (ug/L = ppb)
HS-W40	Sink	Prep by cooler	First Draw	< 1.0
HS-W41	WF	Girls Locker room	First Draw	< 1.0
HS-W42	WF	Boys locker room	First Draw	< 1.0
HS-W43	Sink	Trainer's Room	First Draw	< 1.0
HS-W44	Sink	Trainer's Room ice	First Draw	< 1.0
HS-W45	WF	Pool (H)	First Draw	< 1.0
HS-W46	WF	Pool (L)	First Draw	< 1.0
HS-W47	WF	Swim Boys LR	First Draw	< 1.0
HS-W48	WF	Swim Girls LR	First Draw	< 1.0
HS-W49	WF	Shop 119	First Draw	< 1.0
HS-W50	WF	Hall across from Elev, 2nd fl. (H)	First Draw	< 1.0
HS-W51	WF	Hall across from Elev, 2nd fl. (L)	First Draw	< 1.0
HS-W52	WF	Maint. Break (H)	First Draw	< 1.0
HS-W53	WF	Maint Break (L)	First Draw	< 1.0
HS-W54	Sink	2nd Fl. Mech rm	First Draw	< 1.0
HS-W55	Sink	2nd Fl. Faculty	First Draw	< 1.0
HS-W56	WF	2nd Fl (H)	First Draw	< 1.0
HS-W57	WF	2nd Fl (L)	First Draw	< 1.0
HS-W58	Sink	Rm 230 lab	First Draw	2.5
HS-W59	Sink	Rm 230 eye	First Draw	2.7
HS-W60	Sink	Rm 235 Prep	First Draw	6.1

WF – Water Fountain
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Bolded results exceeded the EPA Recommended Action Level of 20 ug/L (Pb)

850 Poplar Street
Pittsburgh, PA 15220
phone: 412.922.4000
fax: 412.922.4043
intertek.com/building
psiusa.com

August 1, 2017

Deer Lakes School District
19 East Union Road
Cheswick, PA 15024

Attn: Mr. Garry Dixson
Director of Buildings & Grounds/Transportation

Re: Follow-up Potable Water Lead Screening
Deer Lakes School District
Cheswick, Allegheny County, PA
PSI Project No. 08162768

Dear Mr. Dixson:

In accordance with your request, Professional Service Industries, Inc. (PSI), has conducted a follow-up lead water screening of client-defined potable water sources at the Deer Lakes School District facilities. PSI's follow-up sampling included 1 drinking fountain and 8 sinks in the following 5 buildings at the Deer Lakes School District: East Union, Curtisville, the Middle School, Administration and the High School.

PSI was given email authorization on July 5, 2017 to conduct the follow-up lead water screening by Mr. Garry Dixson, Director of Buildings & Grounds and Transportation for the Deer Lakes School District referencing PSI Proposal 0816-202640 dated February 21, 2017.

SCOPE

Follow-up water samples were collected from nine (9) identified potable water outlets where lead concentrations exceeded 10 ug/L during the initial water testing conducted on June 7, 2017 in the Deer Lakes School District facilities. The follow-up samples were collected from nine (9) potable water sources, including 8 sinks and 1 water fountain. At each site, a "first draw" sample was collected followed by a 30-second "flush" sample.

METHODOLOGY

PSI's inspector, Michael Kopar, collected a total of nine (9) "first draw" and nine (9) "flush" water samples from the potable drinking water outlets on July 7, 2017. The "first draw" water samples were collected directly from water fountains or kitchen sinks (cold water spigots) which had been isolated from service for approximately 8-18 hours. The 30-second "flush" samples were collected immediately following the 1st draw samples. The samples were collected directly into laboratory-supplied 250 ml bottles containing a nitric (HNO_3) preservative solution.

The samples were packed in a cooler, and transmitted under chain of custody to Pace Analytical Laboratories in Greensburg, PA, which shipped the samples to the Pace Laboratory located at 575 Broad Hollow Road, Melville, NY 11747 for analysis. This laboratory is a PA certified drinking water laboratory (PA Cert # 68-00350) accredited by

the PA Department of Environmental Protection (PA DEP). All samples were analyzed for lead content by laboratory method EPA 200.8.

DISCUSSION / REGULATORY GUIDELINES

The samples' lead concentrations were compared to the EPA drinking water recommended 'action level' for lead in Schools drinking water at the tap of 0.020 milligrams per liter (mg/L) or 20 ug/L. The EPA's "Lead and Copper Rule" (LCR) for Public Water suppliers (5CFR26460-26564) established an Action Level of 0.015 mg/L (15 ug/L or 15 ppb) for lead.

Public Water Supply Testing vs. Testing at Schools

- It is important to note that the lead testing protocol used by public water systems is aimed at identifying system-wide problems rather than problems at outlets in individual buildings. Moreover, the protocols for sample size and sampling procedures are different. Under the LCR for public water systems, a lead action level of 15 ppb is established for 1 L samples taken by public water systems at high risk residences. If more than 10 percent of the samples at residences exceed 15 ppb, system-wide corrosion control treatment may be necessary. The 15-ppb action level for public water systems is therefore a trigger for treatment rather than an exposure level.

- EPA recommends that schools collect 250 ml first-draw samples from water fountains and outlets, and that the water fountains and/or outlets be taken out of service if the lead level exceeded 20 ppb. The sample was designed to pinpoint specific fountains and outlets that require remediation (e.g. water cooler replacement). The school sampling protocol maximizes the likelihood that the highest concentrations of lead are found because the first 250 ml are analyzed for lead after overnight stagnation.

Some other local, State (such as NY State), and other agencies have adopted the more conservative lead action level of 15 ug/L (ppb).

RESULTS

Lead was detected above the laboratory analytical detection limit in all nine "1st draw" samples and one flush sample collected. In all, a total of two (2) "1st draw" samples exceeded 20 ppb and another "first draw" sample had a lead concentration above the potable water supplier Action Level of 15 ppb. Six of the nine 1st draw samples again exceeded 10 ppb. All 9 of the flush samples had Pb concentrations below 10 ppb, ranging from <1.0 to 1.8 ppb. The table below identifies the 9 sample locations and the 18 sample results.

Sample No.	Building	Sample Type	Sample Location	6/7/17 Analytical Result (Pb) (ug/L = ppb)	7/7/17 Analytical Result (Pb) (ug/L = ppb)
EU-W8A	East Union	1st draw	Library sink	**22.2**	10.0
EU-W8B		Flush		N.A.	< 1.0
CURT-W59A	Curtisville	**1st draw**	**Room 107B sink**	**19.0**	**56.3**
CURT-W59B		Flush		N.A.	1.8
CURT-W63A		1st draw	Room 107A water fountain	45.2	7.6
CURT-W63B		Flush		N.A.	< 1.0
CURT-W66A		**1st draw**	**Room 102 sink**	10.9	**306**
CURT-W66B		Flush		N.A.	<1.0
MS-W4A	Middle School	1st draw	Kit Braising pan	**31.4**	10.2
MS-W4B		Flush		N.A.	< 1.0
Admin-W2A	Admin	1st draw	Admin sink	**31.5**	2.8
Admin-W2B		Flush		N.A.	< 1.0
HS-W15A	High School	1st draw	Rm 112 Home EC sink 2	**15.4**	9.1
HS-W15B		Flush		N.A.	< 1.0
HS-W21A		1st draw	Rm 112 Home EC sink 8	10.3	14.2
HS-W21B		Flush		N.A.	< 1.0
HS-W38A		**1st draw**	**Kitchen steam Ket 4**	**19.5**	**17.4**
HS-W38B		Flush		N.A.	< 1.0

WF – Water Fountain
ND= No Lead Detected (<1.0 ug/L)
Bolded results exceeded the EPA Recommended Action Level of 20 ug/L or the Action level 15 ug/l

The highest concentration from a sink was 306 ug/L (ppb).

Detailed sample summary tables for each of the buildings sampled, including sample numbers and sources sampled, sample location and the laboratory results, are provided as attachments to this report, along with the laboratory analytical reports.

CONCLUSIONS

Based on the water sampling results from the initial testing on June 7, 2017, it appears as though the lead concentrations in the first draw water samples collected at the Deer Lakes School buildings were mostly within the recommended action level. However, following the follow-up water sampling, three (3) potable water outlets had a lead concentration above the recommended public water supplier Action Level of 15 ppb, with two (2) of the outlets having concentrations above the EPA recommended limit for school outlets of 20 ppb. All of the "flush" samples had results below 10 ppb.

RECOMMENDATIONS

PSI recommends that the 3 outlets with a concentration exceeding the EPA recommended limit for schools of 20 ppb and the public water supplier limit of 15 ppb be isolated (removed from service) and then remediated, including repaired, altered or replaced.

Daily flushing of the potable outlets may be used as a means to reduce lead water concentrations below recommended limits.

The EPA recommends that "at a minimum, every outlet that is regularly used for cooking and drinking should be sampled." Periodic, routine testing is recommended. Regular testing can be valuable because it establishes a record of the water quality.

If any changes are made in the plumbing system, PSI recommends testing the outlets prior to regular use.

WARRANTY

The field observations, measurements, and research reported herein are considered sufficient in detail and scope to form for the analysis of the selected water quality parameters. The investigation and conclusions presented herein are based upon the subjective evaluation of limited data. They may not represent all conditions at the subject site as they reflect the information gathered from specific locations. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental investigation methodology and only for the site described in this report.

The water quality sampling and analysis has been developed to provide the client with information regarding select parameter concentrations in the water samples collected at the subject property. It is necessarily limited to the conditions observed and to the information available at the time of the work.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. PSI does not accept responsibility for changes in the state of the art, nor for changes in the regulations. PSI believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

This report for the above referenced property represents the product of PSI's professional expertise and judgment in the environmental and industrial hygiene consulting industry. This report is certified to, can be relied upon by, and has been prepared for the exclusive use of the client.

PSI appreciates you selecting our services for your needs. Please contact us at 412-922-4000 x 383 should you have any questions regarding this report.

Respectfully Submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Michael Kopar, CIE
Project Manager

Joseph L. Kuchnicki, CHMM
Principal Consultant

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Attachments: Laboratory Analysis Report & Chain of Custody Records

LEAD IN DRINKING WATER SAMPLING

Of

Deer Lakes School District

Survey Date: July 25, 2017

Prepared for:

Deer Lakes School District
East Union Road
Russellton, PA 15076

Prepared By:

AGX INC.
environmental consultants
207 Pine Creek Road
Wexford, PA 15090

TABLE OF CONTENTS

1. INTRODUCTION

AGX, Inc. was retained by Deer Lakes School District to test for the presence of lead in drinking water.

Sampling was conducted of ten (10) drinking water fixtures designated by the facility at Deer Lakes Jr./Sr. High, Curtisville Primary Center, East Union Intermediate Center, Deer Lakes Middle School, and Central Administration on July 25, 2017. The objective of the testing was to screen the drinking water and cooking use fixtures and faucets for lead concentrations.

2. SAMPLING METHODOLOGY

Sample collection, delivery and analysis were conducted according to EPA's "Lead in Drinking Water in Schools and Non-Residential Buildings, EPA 812-B-94-002", April 1994 and "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance", October 2006. As per 3Ts, the EPA recommends that if lead is found in any water outlet at levels above 20 parts per billion (ppb), action should be taken to reduce the lead in water concentration.

The EPA Lead Contamination Control Act (LCCA) 3T's designed a lead action level of 20 ppb for a 250 milliliter water sample. The testing procedures and recommended lead concentration were designed to pinpoint specific drinking water sources that require remediation. The sampling protocol maximizes the likelihood that the highest concentration of lead is found in the first 250 mL sample. These values should not be compared to the Lead and Copper Rule (LCR) for public water systems lead action level of 15 ppb for a one liter water sample. This level was established as a reactionary level to identify municipality system wide water problems rather than individual source problems within a building and could dilute lead concentrations due to the larger sample size.

Cold water drinking and cooking use fixtures were tested for lead concentrations. Drinking water and cooking fixtures were defined as classroom faucets, home economic faucets, ice machines, kitchen faucets, cafeteria faucets, nurse's office sink faucets, office sink faucets, teacher's lounge sinks, water fountains and miscellaneous sinks found in classrooms and offices.
All samples were collected in 250 mL plastic containers that were prepackaged by the analytical laboratory. At each sample location, a first draw sample was taken after it was determined that the water had been standing in the plumbing system for greater than eight hours but less than eighteen hours. A second draw sample was collected after the water in the system was discharged for thirty (30) seconds. All samples were analyzed by RJ Lee, Inc., 350 Hochberg Road, Monroeville, PA 15146, an independent PA certified laboratory.

3. LEAD IN DRINKING WATER RESULTS AND DISCUSSION

Drinking water was tested for lead from four schools and one administration building Deer Lakes Jr./Sr. High School, Curtisville Primary Center, East Union Intermediate Center, Deer Lakes Middle School, and Central Administration. A total of twenty (20) samples were collected from ten (10) designated drinking water and cooking use fixtures and faucets. The results of the sampling showed reduced lead concentrations to below 20 parts per billion (ppb) in eight (8) of the ten (10) tested fixtures. The two fixtures that tested above the EPA recommended lead concentration were at Deer Lakes Jr./Sr. High and Curtisville Primary Center.

Analytic results were received by AGX and reviewed in relation to EPA's "Lead in Drinking Water in Schools and Non-Residential Buildings, EPA 812-B-94-002", April 1994 and "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance", October 2006. Based on the EPA Publications lead concentrations at or above 20 parts per billion (ppb) were considered to be elevated. Corrective actions for any fixture that exceeded the recommended action level of 20 parts per billion (ppb) ought to be conducted.

Table 1: Facility drinking water and cooking use fixtures and faucets along with total number of drinking water samples obtained.

School/Building	Date Sampled	Total # of Fixtures Sampled	# Samples Collected
Deer Lakes Jr./Sr. High	7/25/2017	3	6
Curtisville Primary Center	7/25/2017	4	8
East Union Intermediate Center	7/25/2017	1	2
Deer Lakes Middle School	7/25/2017	1	2
Central Administration	7/25/2017	1	2

Table 2: Drinking water samples collected on July 25, 2017 from Deer Lakes Jr./Sr. High School.

Sample Number	Sample Location	Fixture Type	First Draw Sample Results (A)	Second Draw Sample Results (B)
HGH-01-KF-01	Kitchen	Kitchen Faucet	20.1	1.02
HGH-01-CF-02	Room 112 (Sink 2)	Classroom Faucet	7.33	<1.00
HGH-01-CF-03	Prep Room	Classroom Faucet	16.4	1.75

Table 3: Drinking water samples collected on July 25, 2017 from Curtisville Primary Center.

Sample Number	Sample Location	Fixture Type	First Draw Sample Results (A)	Second Draw Sample Results (B)
CUR-01-CF-01	Room 107B	Classroom Faucet	12.3	<1.00
CUR-01-CF-02	Room 107A	Classroom Faucet	16.2	<1.00
CUR-01-w/o-03	Room 107A	Fountain Without Chiller	7.02	1.12
CUR-01-CF-04	Room 102	Classroom Faucet	66.1	<1.00

Table 4: Drinking water samples collected on July 25, 2017 from East Union Intermediate Center.

Sample Number	Sample Location	Fixture Type	First Draw Sample Results (A)	Second Draw Sample Results (B)
EUI-01-MS-01	Library	Miscellaneous Sink	15.1	<1.00

Table 5: Drinking water samples collected on July 25, 2017 from Deer Lakes Middle School.

Sample Number	Sample Location	Fixture Type	First Draw Sample Results (A)	Second Draw Sample Results (B)
MID-01-KF-01	Kitchen	Kitchen Faucet	6.72	1.19

Table 6: Drinking water samples collected on July 25, 2017 from Central Administration.

Sample Number	Sample Location	Fixture Type	First Draw Sample Results (A)	Second Draw Sample Results (B)
CEN-01-TF-01	Lounge	Teachers Faucet	1.10	<1.00

4. RECOMMENDATIONS

1. All drinking water sources that exceed the "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance", October 2006 recommended lead concentration of 20 parts per billion (ppb) or greater should be remediated to reduce lead concentrations. Remediation may include but not be limited to posting signs indicating "not for drinking", cleaning fixtures, replace individual fixtures with lead free fixtures, replace the system or plumbing (lead solder joints or brass) with lead free materials, point of source filters and/or disabling fixtures. The remediation action will depend on the fixture and circumstances involved. Following remediation efforts before any drinking water source is placed back into service the fixture should be re-tested to ensure the lead level was reduced below the recommended lead concentration of 20 parts per billion (ppb).

2. Signs stating, "Hand Wash Only" or "Not for Drinking" should be posted at designated non-drinking water sources (restrooms, science labs, utility sinks, wash sinks, etc.).

3. A procedure should be devised to inform staff of best drinking water practices, which should include but not be limited to:
    a. Staff and students should refrain from using classroom faucets for drinking water. Instead they should be encouraged to use designated water fountains, kitchen faucets and teachers' lounge sinks.
    b. Prior to drinking, water should be run for one minute or until the water runs cold.
    c. Only use cold water for drinking and cooking.

4. Following any break longer than five days the water in the facility should be run through drinking water sources to ensure stagnant water has been moved through the plumbing. It is recommended that flushing directions provided by EPA's "Lead in Drinking Water in Schools and Non-Residential Buildings, EPA 812-B-94-002", April 1994 and "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance", October 2006 be followed.

5. A procedure should be devised to routinely clean drinking water sources and distribution piping. Cleaning should include but not be limited to ensuring fixtures are free from debris, drain properly, aerators (screens) are clean and free from debris, and filters changed in accordance with the manufactures guidelines.

REPORT DISCLAIMER:

This AGX, Inc. report is based on information supplied by the client, occupants and on conditions readily observable or measurable on the date or dates of this study. The results and recommendations presented herein should not be relied upon exclusively for the prevention of all possible illnesses, injuries, or losses. These services are a supplement to, and not a substitute for, the client's responsibility for protecting the health and safety of the occupants of the facility, and others, and for complying with applicable laws and regulations.

This report and the associated attachments and appendices have been produced and developed for, and at the request of, Allegheny Valley School District. It conveys the findings of AGX as of the date(s) noted herein. This report is intended for the exclusive use of Allegheny Valley School District.