

September 22, 2018

Mr. Mark Coldren  
Water Treatment By Design  
730 Seitz Drive  
Lewisberry, PA 17339

## Certificate of Analysis

Project Name: <b>Big S.D. 09/13/18</b>	Workorder: <b>2337940</b>
Purchase Order:	Workorder ID: <b>Big S.D. 09/13/18</b>

Dear Mr. Coldren:

Enclosed are the analytical results for samples received by the laboratory on Thursday, September 13, 2018.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Amy K Borden (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Ms. Amy K Borden  
Project Coordinator

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

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### SAMPLE SUMMARY

Workorder: 2337940 Big S.D. 09/13/18

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2337940001	Big M.S. Faculty Cold	Drinking Water	9/13/2018 06:45	9/13/2018 11:00	Mr. Mark Coldren
2337940002	Big H.S. Faculty Hot	Drinking Water	9/13/2018 07:00	9/13/2018 11:00	Mr. Mark Coldren
2337940003	Big Ele. Rm 20 Faculty Cold	Drinking Water	9/13/2018 07:05	9/13/2018 11:00	Mr. Mark Coldren
2337940004	Arendtsville Ele. Com	Drinking Water	9/13/2018 07:20	9/13/2018 11:00	Mr. Mark Coldren
2337940005	Bender Ele. Hot	Drinking Water	9/13/2018 07:34	9/13/2018 11:00	Mr. Mark Coldren

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## SAMPLE SUMMARY

Workorder: 2337940 Big S.D. 09/13/18

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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### ANALYTICAL RESULTS

Workorder: 2337940 Big S.D. 09/13/18

Lab ID: **2337940001** Date Collected: 9/13/2018 06:45 Matrix: Drinking Water  
 Sample ID: **Big M.S. Faculty Cold** Date Received: 9/13/2018 11:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
<b>METALS</b>										
Lead, Total	ND		mg/L	0.0020	EPA 200.8	9/21/18 13:11	MO	9/21/18 13:56	MO	A1



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 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 2337940 Big S.D. 09/13/18

Lab ID: **2337940002** Date Collected: 9/13/2018 07:00 Matrix: Drinking Water  
 Sample ID: **Big H.S. Faculty Hot** Date Received: 9/13/2018 11:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
<b>METALS</b>										
Lead, Total	ND		mg/L	0.0020	EPA 200.8	9/21/18 13:11	MO	9/21/18 13:59	MO	A1



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### ANALYTICAL RESULTS

Workorder: 2337940 Big S.D. 09/13/18

 Lab ID: **2337940003** Date Collected: 9/13/2018 07:05 Matrix: Drinking Water  
 Sample ID: **Big Ele. Rm 20 Faculty Cold** Date Received: 9/13/2018 11:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed By	Cntr
<b>METALS</b>								
Lead, Total	ND		mg/L	0.0020	EPA 200.8	9/21/18 13:46 MO	9/21/18 15:22 MO	A1



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### ANALYTICAL RESULTS

Workorder: 2337940 Big S.D. 09/13/18

Lab ID: **2337940004** Date Collected: 9/13/2018 07:20 Matrix: Drinking Water  
 Sample ID: **Arendtsville Ele. Com** Date Received: 9/13/2018 11:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed By	Cntr
<b>METALS</b>								
Lead, Total	ND		mg/L	0.0020	EPA 200.8	9/21/18 13:46 MO	9/21/18 15:36 MO	A1



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### ANALYTICAL RESULTS

Workorder: 2337940 Big S.D. 09/13/18

Lab ID: **2337940005** Date Collected: 9/13/2018 07:34 Matrix: Drinking Water  
 Sample ID: **Bender Ele. Hot** Date Received: 9/13/2018 11:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
<b>METALS</b>										
Lead, Total	ND		mg/L	0.0020	EPA 200.8	9/21/18 13:46	MO	9/21/18 15:38	MO	A1



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### ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 2337940 Big S.D. 09/13/18

Lab ID	Sample ID	Analysis Method	Prep Method
2337940001	Big M.S. Faculty Cold	EPA 200.8	EPA ACIDT
2337940002	Big H.S. Faculty Hot	EPA 200.8	EPA ACIDT
2337940003	Big Ele. Rm 20 Faculty Cold	EPA 200.8	EPA ACIDT
2337940004	Arendtsville Ele. Com	EPA 200.8	EPA ACIDT
2337940005	Bender Ele. Hot	EPA 200.8	EPA ACIDT

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34 Dogwood Lane  
 Middletown, PA 17057  
 P. 717-944-5541  
 F. 717-944-1430

**CHAIN OF CUSTODY/  
 REQUEST FOR ANALYSIS**  
 ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/  
 SAMPLER. INSTRUCTIONS ON THE BACK

Co. Name: *Water Treatment by Design*  
 Contact (Report to): *Mark Colchen* Phone: *(717) 938-0620*  
 Address: *730 Seate Drive*  
*Lewistown, PA 17339*

Bill to (if different than Report to): \_\_\_\_\_ PO#: \_\_\_\_\_

Project Name#: *BIG S.D* ALS Quote #: \_\_\_\_\_  
 TAT:  Normal-Standard TAT is 10-12 business days. Date Required: \_\_\_\_\_  
 Rush-Subject to ALS approval and surcharges. Approved By: \_\_\_\_\_

Email?  .Y  
 Fax?  .Y No: \_\_\_\_\_

Sample Description/Location <small>(as it will appear on the lab report)</small>	COC Comments	Sample Date	Military Time	Received By / Company Name	Date, Time
1 <i>BIG M.S. Faculty Cold</i>		<i>9/13</i>	<i>6:45</i>	<i>Jan Sars</i>	<i>9/13/18 1100</i>
2 <i>BIG H.S. Faculty Hot</i>		<i>9/13</i>	<i>7:00</i>		
3 <i>BIG Ele Rm 20 Faculty Cold</i>		<i>9/13</i>	<i>7:05</i>		
4 <i>Arendtsville Ele Cold</i>		<i>9/13</i>	<i>7:20</i>		
5 <i>Bender Ele Hot</i>		<i>9/13</i>	<i>7:34</i>		
6					
7					
8					

SAMPLED BY (Please Print): *Mark Colchen*

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date, Time
<i>Mark Colchen / WSP</i>	<i>9/13/18</i>	<i>11:00</i>	<i>Jan Sars</i>	<i>9/13/18 1100</i>

Receipt information (attach to Service Invoice)  
 Personnel: *SSB*  
 Cooler Temp: *24°C*  
 Therm. ID: *B59*  
 No. of Coolers: *1*  
 Notes: \_\_\_\_\_

Correct containers?	Y	Correct sample volume?	Y	Correct preservation?	Y	Headspace/Volatiles?	Y	Container in good condition?	Y
Custody seals Present?	Y	(if present) Seals intact?	Y	Received on ice?	Y	COC labels complete/accurate?	Y		

Enter Number of Containers Per Analysis

Matrix	gpc	dw	1
Matrix			1
Matrix			1
Matrix			1
Matrix			1
Matrix			
Matrix			
Matrix			
Matrix			

ANALYSES/METHOD REQUESTED

Container Type: *P*  
 Container Size: *500/AB*  
 Preservative: *NONE*  
 Date: *9/13/18*

ALS FIELD SERVICES  
 Pickup  
 Labor  
 Composite Sampling  
 Rental Equipment  
 Other: \_\_\_\_\_

SIIMA Form?  Standard  
 CLP-like  
 NJ-Reduced  
 NJ-Full  
 (if yes, format type: Other: \_\_\_\_\_)

State Samples Collected in?  
 MD  
 NJ  
 NY  
 PA

EDS Required?  YES  NO

DOO Criteria Required?  YES  NO

Page \_\_\_ of \_\_\_  
 Counter: \_\_\_\_\_  
 Tracking #: \_\_\_\_\_  
 \* 2 3 3 7 9 4 0 \*

---G-Grab; C-Composite ---Matrix: Air-Air; DR-Drinking Water; CW-Clean Groundwater; OL-Other Liquid; SL-Sludge; SO-Soil; YP-Yield; WWS-Wastewater  
 Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY  
 Preservative: HCl, HNO3, NaOH, etc.  
 Container Size: 250ml, 500ml, 1L, 500ml, 1L, 500ml, etc.  
 Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic  
 Rev 01-2013