

# **AERO ENVIRONMENTAL SERVICES, INC.**

ENGINEERING • CONSULTING • TESTING

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September 3, 2019

Mr. Steve Toth  
District Facility Manger  
Montville Township School District  
86 River Road  
Montville, NJ 07045

## **Re: Lazar Middle School Electro Magnetic Field (EMF) Strength Survey- August 15, 2019**

Dear Mr. Toth,

On August 15, 2019 an Electro Magnetic Field (EMF) survey was conducted at the Lazar Middle School. Sampling was conducted to determine if a relationship existed between the EMF source outdoors from power lines versus indoor EMF sources. Numerous samples were collected inside and outside the school. School was not in session. A minimal amount of people were in the school building during the sampling period.

The strength or intensity of magnetic fields is commonly measured in a unit called Gauss. A milligauss (mG) is a thousandth of a gauss. There are magnetic fields almost everywhere. Exposure to magnetic fields come from many sources, like high voltage power transmission lines, internal wiring in buildings, currents in grounding paths, and electric appliances such as TV monitors, radios, hair dryers and electric blankets. The strength of magnetic fields weakens with increasing distance from the source.

Attached are the measured results for all locations surveyed. As the results indicate EMF measurements can change depending on the amount of EMF sources when sampling is performed.

Based on the sampling performed, EMF measurements were consistent with other sampling events & were within range of other data measurements collected. The power lines located behind the Lazar Middle School are not increasing the EMF amounts measured **within** the Lazar Middle School Building.

If anyone has questions regarding this survey, please call me right away.

Sincerely



Michael Berta, CSP, CPEA  
Manager Environmental Health & Safety

# EMF Survey Results

**Client:** **Montville Township School**  
**Location Of Testing:** **Lazar Middle School**

**Date Of Testing:** August 15, 2019  
**Time Of Testing:** 9:25am - 12:40pm  
**Weather:** 79 Fahrenheit, 74 Relative Humidity, Mostly Cloudy with Some Sun

**Comments** Samples Collected At 1 Meter Above Ground And Away From Walls

Existing Lower Overhead Power Lines Behind West Side School Still In Use, Large 230 kV Power Lines Activated by PSEG

6th Test Date	Inside/Outside Building	Location	08/15/19 Sampling Date Milli Gause mG	12/18/13 Sampling Date Milli Gause mG	03/04/14 Sampling Date Milli Gause mG	05/06/14 Sampling Date Milli Gause mG	06/13/14 Sampling Date Milli Gause mG	11/25/14 Sampling Date Milli Gause mG	06/23/17 Sampling Date Milli Gause mG
6/23/2017	Inside Building	Room 40 Back Left	0.80	1.40	0.45	1.65	x	0.60	0.50
6/23/2017	Inside Building	Room 40 Back Right	0.80	1.40	0.48	1.50	x	0.60	0.35
6/23/2017	Inside Building	Room 40 Front Right	0.70	1.50	0.44	1.50	x	0.45	0.70
6/23/2017	Inside Building	Room 40 Front Left	0.70	1.70	0.45	1.60	x	0.80	0.20
6/23/2017	Inside Building	Room 40 Center	0.60	1.10	0.33	1.20	x	0.40	0.15
6/23/2017	Inside Building	Room 42 Back Left	0.70	0.45	0.40	1.00	x	0.50	0.20
6/23/2017	Inside Building	Room 42 Back Right	1.00	0.45	0.35	1.05	x	0.60	0.60
6/23/2017	Inside Building	Room 42 Front Right	0.40	0.45	0.40	0.65	x	0.40	0.40
6/23/2017	Inside Building	Room 42 Front Left	0.50	0.45	0.40	0.80	x	0.30	0.70

EMF Survey Results Tabulation  
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6/23/2017	Inside Building	Room 42 Center	0.70	0.30	0.30	0.90	x	0.40	0.40
6/23/2017	Inside Building	Room 44 Back Left	0.90	0.40	0.38	1.20	x	0.60	0.25
6/23/2017	Inside Building	Room 44 Back Right	0.90	1.10	0.45	1.30	x	1.80	1.10
6/23/2017	Inside Building	Room 44 Front Right	0.60	0.40	0.30	0.60	x	0.30	0.20
6/23/2017	Inside Building	Room 44 Front Left	0.60	0.30	0.36	1.00	x	0.30	0.40
6/23/2017	Inside Building	Room 44 Center	0.70	0.30	0.25	0.90	x	0.40	0.80
6/23/2017	Inside Building	Room 46 Back Left	1.00	0.70	0.95	1.50	x	0.70	0.30
6/23/2017	Inside Building	Room 46 Back Right	1.00	0.60	0.60	1.30	x	0.70	1.20
6/23/2017	Inside Building	Room 46 Front Right	0.60	0.50	0.30	0.70	x	0.40	0.25
6/23/2017	Inside Building	Room 46 Front Left	0.60	0.70	0.40	0.70	x	0.40	0.60
6/23/2017	Inside Building	Room 46 Center	0.60	0.50	0.25	0.60	x	0.40	0.70
6/23/2017	Inside Building	Room 48 Back Left	1.00	0.70	1.11	1.40	x	0.70	1.30
6/23/2017	Inside Building	Room 48 Back Right	0.90	0.90	0.45	1.20	x	1.20	1.00
6/23/2017	Inside Building	Room 48 Front Right	0.50	0.60	0.30	0.70	x	0.40	0.25
6/23/2017	Inside Building	Room 48 Front Left	0.50	0.60	0.35	0.60	x	0.40	0.25
6/23/2017	Inside Building	Room 48 Center	0.60	0.50	0.35	0.90	x	0.40	0.60
6/23/2017	Inside Building	Room 50 Back Left	0.90	0.60	0.45	1.10	x	0.40	1.00
6/23/2017	Inside Building	Room 50 Back Right	0.90	0.60	0.55	1.10	x	0.80	0.70
6/23/2017	Inside Building	Room 50 Front Right	0.60	0.50	0.35	0.70	x	0.40	0.25
6/23/2017	Inside Building	Room 50 Front Left	0.80	0.60	0.45	0.60	x	0.40	0.20
6/23/2017	Inside Building	Room 50 Center	0.40	0.50	0.45	0.70	x	0.50	0.30
6/23/2017	Inside Building	Room 52 Back Left	0.50	0.65	0.90	0.90	x	0.90	0.80
6/23/2017	Inside Building	Room 52 Back Right	0.50	0.50	0.55	1.10	x	0.70	1.10
6/23/2017	Inside Building	Room 52 Front Right	0.50	0.50	0.25	0.60	x	0.40	0.20

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6/23/2017	Inside Building	Room 52 Front Left	0.50	0.50	0.25	0.60	x	0.40	0.60
6/23/2017	Inside Building	Room 52 Center	0.50	0.50	0.30	0.80	x	0.40	0.70
6/23/2017	Inside Building	Room 54 Back Left	0.80	0.65	1.10	1.30	x	0.70	0.30
6/23/2017	Inside Building	Room 54 Back Right	0.90	1.20	0.75	1.20	x	0.80	0.45
6/23/2017	Inside Building	Room 54 Front Right	0.70	1.20	1.10	0.60	x	0.30	0.40
6/23/2017	Inside Building	Room 54 Front Left	0.50	0.60	0.40	0.70	x	0.50	0.15
6/23/2017	Inside Building	Room 54 Center	0.50	0.40	0.30	0.80	x	0.50	0.50
6/23/2017	Inside Building	Room 56 Back Left	0.90	1.20	0.70	1.30	x	0.70	0.60
6/23/2017	Inside Building	Room 56 Back Right	0.90	0.50	0.45	1.20	x	0.60	0.90
6/23/2017	Inside Building	Room 56 Front Right	0.40	0.20	0.20	0.60	x	0.20	0.10
6/23/2017	Inside Building	Room 56 Front Left	1.20	1.30	0.75	0.80	x	0.30	0.60
6/23/2017	Inside Building	Room 56 Center	0.60	0.40	0.30	0.80	x	0.40	0.40
6/23/2017	Inside Building	Room 58 Back Left	0.90	0.60	0.50	1.20	x	0.60	0.30
6/23/2017	Inside Building	Room 58 Back Right	0.90	0.50	0.45	1.10	x	0.60	0.45
6/23/2017	Inside Building	Room 58 Front Right	0.80	0.60	0.55	0.90	x	0.60	0.80
6/23/2017	Inside Building	Room 58 Front Left	0.50	0.30	0.25	0.60	x	0.30	0.50
6/23/2017	Inside Building	Room 58 Center	0.70	0.35	0.30	0.80	x	0.40	0.20
6/23/2017	Inside Building	Room 60 Back Left	1.00	1.10	1.25	1.60	x	1.80	0.60
6/23/2017	Inside Building	Room 60 Back Right	1.00	0.60	0.70	1.20	x	1.00	0.90
6/23/2017	Inside Building	Room 60 Front Right	0.40	0.30	0.30	0.70	x	0.40	0.25
6/23/2017	Inside Building	Room 60 Front Left	0.60	0.35	0.25	0.70	x	0.40	0.70
6/23/2017	Inside Building	Room 60 Center	0.60	0.30	0.25	0.80	x	0.40	0.50
6/23/2017	Inside Building	Room 62 Back Left	0.90	1.20	1.10	1.80	x	1.80	0.70
6/23/2017	Inside Building	Room 62 Back Right	0.80	0.25	0.50	1.50	x	1.30	1.10

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6/23/2017	Inside Building	Room 62 Front Right	0.40	0.20	0.20	0.50	x	0.20	0.30
6/23/2017	Inside Building	Room 62 Front Left	0.40	0.30	0.25	0.40	x	0.20	0.60
6/23/2017	Inside Building	Room 62 Center	0.50	0.30	0.25	0.80	x	0.30	0.50
6/23/2017	Inside Building	Room 64 Back Left	0.80	1.00	1.10	1.80	x	1.80	1.10
6/23/2017	Inside Building	Room 64 Back Right	0.60	0.50	0.45	1.00	x	0.50	0.50
6/23/2017	Inside Building	Room 64 Front Right	0.50	0.40	0.40	0.80	x	0.40	0.30
6/23/2017	Inside Building	Room 64 Front Left	0.40	0.25	0.20	0.50	x	0.20	0.40
6/23/2017	Inside Building	Room 64 Center	0.40	0.30	0.25	0.70	x	0.30	0.60
6/23/2017	Inside Building	Main Office Back Left	1.30	1.40	1.20	1.90	x	1.60	1.50
6/23/2017	Inside Building	Main Office Back Right	1.40	1.40	1.10	1.50	x	1.10	0.50
6/23/2017	Inside Building	Main Office Front Right by Fire Alarm Box	2.70	1.50	1.20	1.90	x	1.50	2.50
6/23/2017	Inside Building	Main Office Front Left	0.90	1.30	1.40	1.60	x	1.30	0.25
6/23/2017	Inside Building	Main Office Center	0.90	1.10	0.95	1.20	x	0.90	0.30
6/23/2017	Inside Building	Utility Room #5 Back Left	8.90	14.50	10.25	16.00	x	8.50	5.00
6/23/2017	Inside Building	Utility Room #5 Back Right	0.90	3.00	1.75	4.00	x	1.90	0.60
6/23/2017	Inside Building	Utility Room #5 Front Right	0.80	1.00	0.80	2.00	x	1.20	0.90
6/23/2017	Inside Building	Utility Room #5 Front Left	1.70	5.00	3.45	6.50	x	2.50	1.00
6/23/2017	Inside Building	Utility Room #5 Center	4.70	6.00	5.50	9.00	x	5.50	4.00
6/23/2017	Inside Building	Main Electric Closet Back Left	90.50	110.00	70.00	150.00	x	165.00	50.00
6/23/2017	Inside Building	Main Electric Closet Back Right	57.50	85.00	55.00	90.00	x	95.00	75.00
6/23/2017	Inside Building	Main Electric Closet Front Right	14.90	20.00	13.00	25.00	x	17.00	6.00
6/23/2017	Inside Building	Main Electric Closet Front Left	33.80	25.00	18.00	25.00	x	21.00	17.00
6/23/2017	Outside Building	South East Corner By Room 40	0.80	0.50	0.45	1.10	0.40	0.50	0.40
6/23/2017	Outside Building	Room 44	1.00	0.80	0.65	1.20	0.40	0.80	0.75

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6/23/2017	Outside Building	Room 50	1.00	0.85	0.45	1.40	0.40	0.75	0.50
6/23/2017	Outside Building	Room 56	0.90	0.70	0.55	1.30	0.45	0.70	0.60
6/23/2017	Outside Building	North West Corner By Room 64	0.40	0.45	0.40	0.90	0.30	0.50	0.30
6/23/2017	Outside Building	Room 65	0.40	0.50	0.45	0.90	0.30	0.55	0.30
6/23/2017	Outside Building	Room 17	0.80	0.80	0.70	1.30	0.60	0.90	0.30
6/23/2017	Outside Building	Cafeteria Corner North West Corner	0.60	0.80	0.70	1.10	0.70	0.90	0.20
6/23/2017	Outside Building	Cafeteria Corner North East Corner	1.20	1.20	1.10	1.50	1.00	1.50	0.30
6/23/2017	Outside Building	Cafeteria Corner South East Corner	1.30	1.20	1.20	1.50	1.20	1.45	0.30
6/23/2017	Outside Building	Room 7	1.00	1.30	1.20	1.35	0.80	1.50	0.40
6/23/2017	Outside Building	Office 1	1.30	1.40	1.40	1.70	1.20	1.80	1.30
6/23/2017	Outside Building	South East Corner	1.00	1.20	1.10	1.50	0.90	1.50	0.70
6/23/2017	Outside Building	Transformer Pole South East Corner Parking Lot	36.20	18.50	9.50	22.00	28.00	16.50	13.00
6/23/2017	Outside Building	South East Corner At Changebridge Road	1.40	1.40	1.20	2.50	3.80	1.85	1.10
6/23/2017	Outside Building	Transformer Southside By Rm 37 Back Left	13.40	7.50	5.50	8.00	21.00	10.00	5.00
6/23/2017	Outside Building	Transformer Southside By Rm 37 Back Right	98.50	42.00	30.00	70.00	140.00	80.00	30.00
6/23/2017	Outside Building	Transformer Southside By Rm 37 Front Right	182.30	110.00	66.50	160.00	190.00	175.00	130.00
6/23/2017	Outside Building	Transformer Southside By Rm 37 Front Left	24.90	7.00	6.50	8.50	25.00	12.00	4.00
6/23/2017	Outside Building	#2 Door/ Custodian Office Door	0.80	12.00	4.00	1.50	1.50	0.60	0.40
6/23/2017	Outside Building	Room 37 South Corner	0.90	1.00	1.20	1.40	1.80	1.10	1.10
6/23/2017	Outside Building	South Ball Field Pitchers Mound	1.80	0.60	0.70	2.00	0.90	0.80	1.60
6/23/2017	Outside Building	South Ball Field At Tree Line Behind 3rd Base	2.90	5.00	3.40	3.50	1.40	0.90	3.00
6/23/2017	Outside Building	North Ball Field Pitchers Mound	2.20	1.20	1.15	3.00	1.40	0.80	1.20
6/23/2017	Outside Building	North Ball Field at Tree Line By 1st Base	4.40	7.00	7.50	4.00	2.80	3.50	4.00
6/23/2017	Outside Building	North West Corner Property Under Existing Power Lines	18.60	16.50	12.50	25.00	4.50	14.00	18.00

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6/23/2017	Outside Building	North West Corner Property Under Existing Power Lines Perpendicular 1st Base	<b>24.70</b>	21.00	14.50	25.00	5.50	18.50	17.00
6/23/2017	Outside Building	North West Corner Property Under Large Power Line	<b>32.00</b>	2.00	2.25	30.00	11.50	20.00	25.00
6/23/2017	Outside Building	South West Property Under Large Power Line Pole	<b>34.00</b>	2.00	3.65	30.00	11.50	19.50	25.00
6/23/2017	Outside Building	South West Property Under Large Power Lines	<b>34.00</b>	2.00	3.45	30.00	11.50	20.00	25.00
6/23/2017	Outside Building	South West Corner Property Behind South Ballfield	<b>2.70</b>	10.00	8.25	28.00	5.50	1.50	0.20
6/23/2017	Outside Building	South West Corner By 3rd Base and Outfield By Woods	<b>3.20</b>	6.50	3.50	7.00	1.70	1.60	2.00
6/23/2017	Outside Building	South Ball field Home Plate	<b>2.20</b>	4.00	2.50	3.00	1.50	1.30	1.90
6/23/2017	Outside Building	South West Corner Property Behind South Ball Field and Maintenance Fence	<b>3.30</b>	2.00	1.50	3.50	1.25	0.90	6.50
6/23/2017	Outside Building	South East Corner Building Outfield South Ball Field 100 From 1st Base by Red Shed	<b>1.10</b>	0.40	0.45	2.50	0.85	0.60	0.90
6/23/2017	Outside Building	North East Corner Cafeteria To Changebridge Road At Blinker Light	<b>6.20</b>	7.00	4.75	9.00	12.00	7.50	4.50