

**APPENDIX E**  
**Statistical Data**

Lead Phytoremediation Demonstration

Twin Cities AAP

**Table E-1**  
**Analysis of Variability of Grid Rows and Columns for Site C and Site 129-3.**  
**Values Used for Analysis are Lead Concentrations for the 0- to 12-Inch Soil Depth**  
**(Average of Lead Concentrations at the 0- to 6-Inch**  
**and 6- to 12-Inch Soil Depth in Table 5-1)**

Source	Degrees of Freedom	Mean Square	F Value	Probability>F
Site C				
Rows	5	1,776,090	1.85	0.1394
Columns	5	1,409,532	1.47	0.2354
Error	25	959,838		
Site 129-3				
Rows	5	81,678	1.57	0.2040
Columns	5	80,198	1.54	0.2121
Error	25	51,918		

**Table E-2**  
**Analysis of Variability of Grid Rows and Columns for Site C for Lead Concentrations in**  
**Corn After Soil Amendment Addition in Table 5-12.**

Source	Degrees of Freedom	Mean Square	F Value	Probability>F
Rows	5	3,353,991	1.20	0.3385
Columns	5	6,014,864	2.15	0.0925
Error	25	2,798,519		

**Table E-2A**  
**Least Significant Difference t-Test for Grid Columns for Lead Concentration**  
**in Corn at Site C**

<b>T grouping<sup>1,2</sup></b>	<b>Mean</b>	<b>Number of Grids</b>	<b>Column</b>
A	7,800	6	4
A B	7,573	6	2
A B C	6,437	6	1
B C	5,777	6	6
B C	5,710	6	5
C	5,487	6	3

(1) Least Significant Difference = 1,989

(2) Alpha = 0.05

**Table E-3**  
**Analysis of Variability of Grids Rows and Columns for Site 129-3 for Lead**  
**Concentrations in Corn After Soil Amendment Addition in Table 5-13.**

<b>Source</b>	<b>Degrees of Freedom</b>	<b>Mean Square</b>	<b>F Value</b>	<b>Probability&gt;F</b>
Rows	5	1,994,593	2.99	0.0298
Columns	5	3,113,861	4.67	0.0038
Error	25	666,317		

**Table E-3A**  
**Least Significant Difference t-Test for Grid Rows for Lead Concentration in Corn at**  
**Site 129-3**

<b>T grouping<sup>1,2</sup></b>	<b>Mean</b>	<b>Number of Grids</b>	<b>Row</b>
A	2,265	6	5
A B	1,622	6	4
B	1,264	6	1
B	1,145	6	6
B	830	6	3
B	683	6	2

(1) Least Significant Difference = 971

(2) Alpha = 0.05

**Table E-3B**  
**Least Significant Difference t-Test for Grid Columns for Lead Concentration**  
**in Corn at Site 129-3**

<b>T grouping<sup>1,2</sup></b>	<b>Mean</b>	<b>Number of Grids</b>	<b>Columns</b>
A	2,069	6	2
A B	1,896	6	3
A B C	1,758	6	1
B C D	970	6	4
C D	894	6	5
D	222	6	6

(1) Least Significant Difference = 970

(2) Alpha = 0.05

**Table E-4**  
**Regression Analysis of Soil and Crop Parameters for First Soil Amendment**  
**Addition and Harvest With Corn**

Regression	Probability > T	R-square
Site C		
corn on initial lead 0"-12" <sup>1</sup>	0.0001	0.4012
corn on total lead 0"-12"	0.3271	0.0291
corn on total lead 12"-24"	0.5906	0.0091
corn on total lead 0"-24" <sup>2</sup>	0.2719	0.0376
corn on water-soluble Pb 0"-12"	0.2461	0.0405
corn on water-soluble Pb 12"-24"	0.3041	0.0320
corn on water-soluble Pb 0"-24" <sup>2</sup>	0.2189	0.0454
water-soluble Pb on initial Pb 0"-12" <sup>1</sup>	0.5816	0.0093
water-soluble Pb on total Pb 0"-12"	0.6666	0.0057
water-soluble Pb on total Pb 12"-24"	0.8811	0.0007
water-soluble Pb on total Pb 0"-24" <sup>2</sup>	0.6858	0.0052
Site 129-3		
corn on initial lead 0"-12" <sup>1</sup>	0.0375	0.1211
corn on total lead 0"-12"	0.0154	0.1607
corn on total lead 12"-24"	0.0001	0.4024
corn on total lead 0"-24" <sup>2</sup>	0.0010	0.2745
corn on water-soluble Pb 0"-12"	0.0001	0.3709
corn on water-soluble Pb 12"-24"	0.0001	0.4086
corn on water-soluble Pb 0"-24" <sup>2</sup>	0.0001	0.4090
water-soluble Pb on initial Pb 0"-12" <sup>1</sup>	0.0011	0.2735
water-soluble Pb on total Pb 0"-12"	0.0002	0.3449
water-soluble Pb on total Pb 12"-24"	0.0001	0.8079
water-soluble Pb on total Pb 0"-24" <sup>2</sup>	0.0001	0.4892

- (1) Initial lead 0-12 inches is the average of lead concentrations at the 0- to 6-inch and 6- to 12-inch soil depth for the initial soil characterization in Table 5-1 (Site C) and Table 5-2 (Site 129-3).
- (2) Average of lead concentrations at the 0- to 12-inch and 12- to 24-inch depths.