Figure L-1. Location of Background and PGOU Data

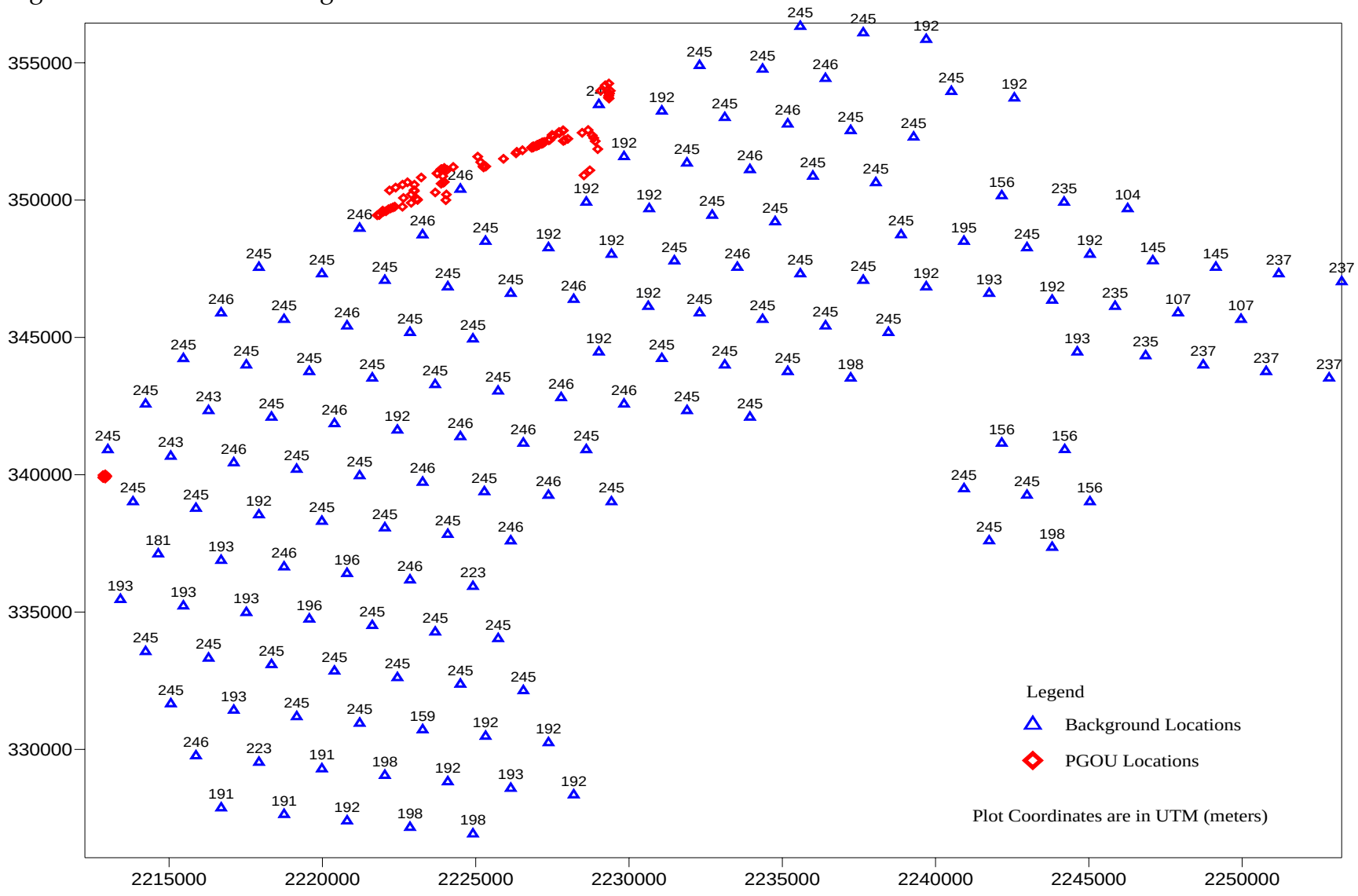
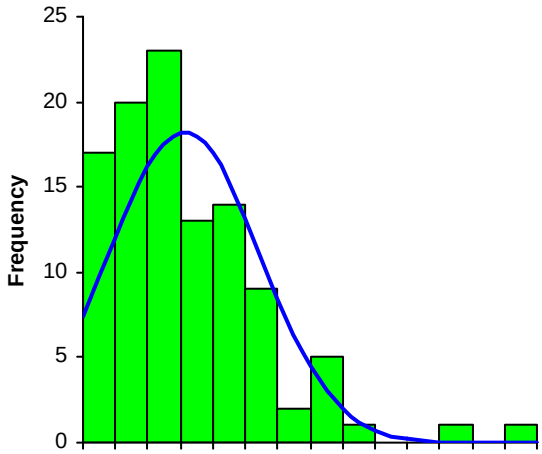
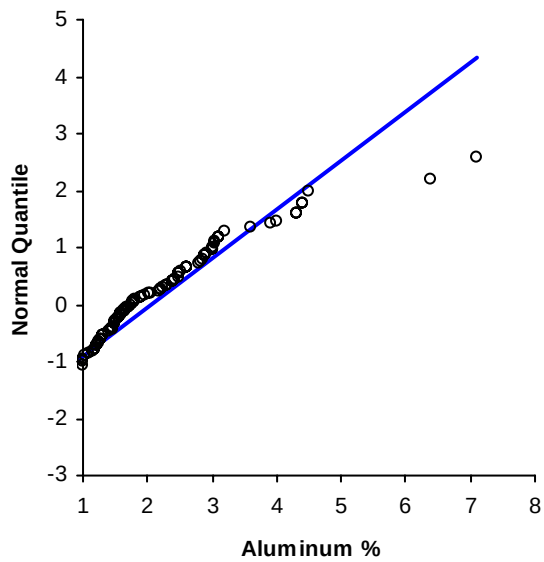


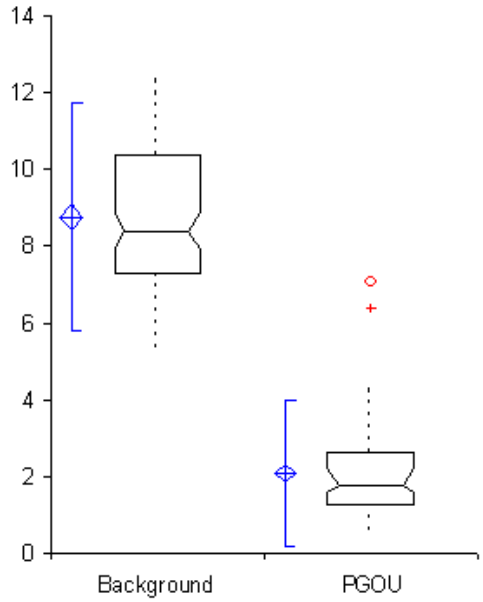
Figure L-2. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Aluminum (Al): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.8775	<0.0001
Skewness	1.5843	<0.0001
Kurtosis	3.8507	0.0001



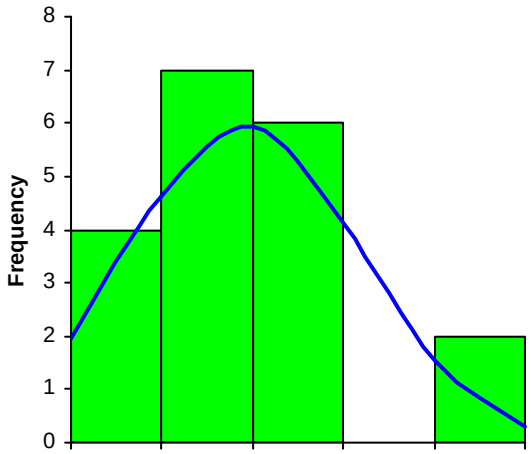


n	201			
Al by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	14926.0	152.31	19.0
PGOU	103	5375.0	52.18	10075.0
Difference between medians	6.500			
95.0% CI	−∞	to 6.890	(normal approximation)	
Mann-Whitney U statistic	19			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

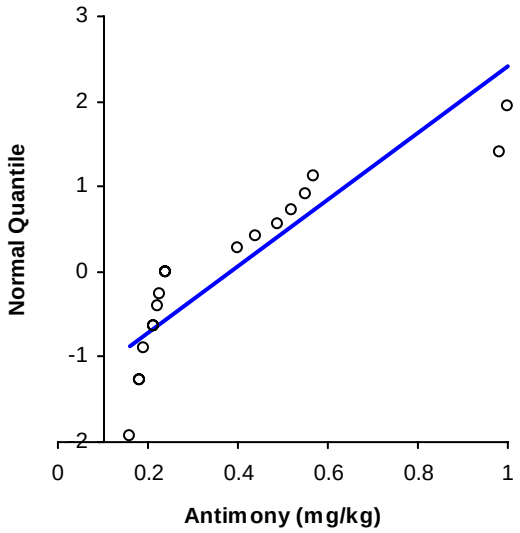
Al by Group	**n**	**Mean**	**SD**	**SE**	**95% CI of Mean**		**Median**
Background	98	8.781	1.8045	0.182	8.420	to 9.143	8.390
PGOU	103	2.083	1.1688	0.115	1.855	to 2.312	1.770

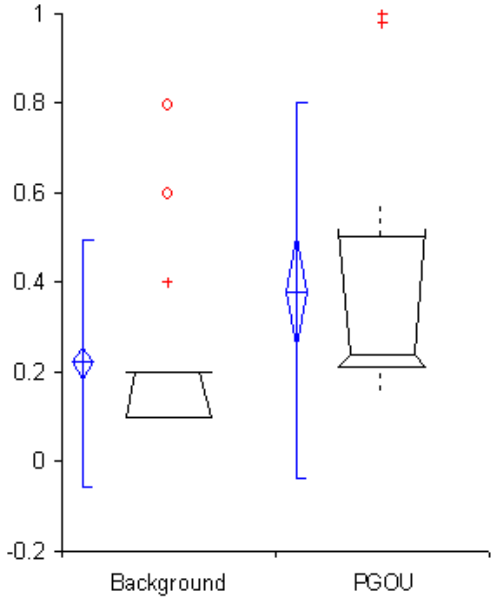
Figure L-3. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Antimony (Sb): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.7744	0.0005
Skewness	1.5142	0.0075
Kurtosis	1.6908	-



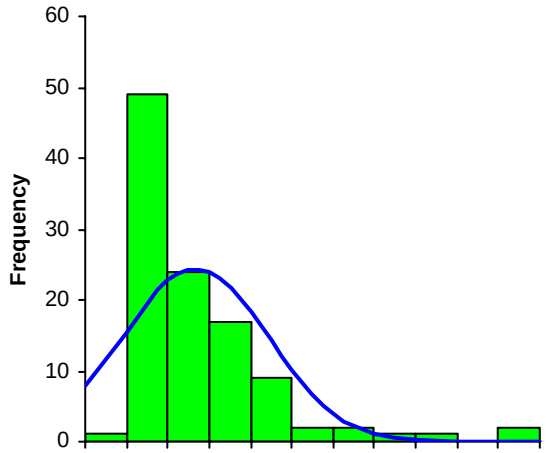


n	117			
Sb by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	5279.0	53.87	1434.0
PGOU	19	1624.0	85.47	428.0
Difference between medians	-0.115			
95.0% CI	$-\infty$	to -0.080	(normal approximation)	
Mann-Whitney U statistic	1434			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

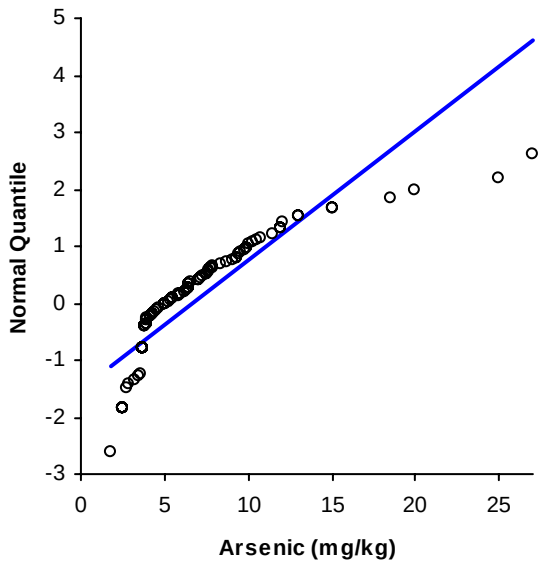
Sb by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	0.221	0.1682	0.0170	0.188	to 0.255	0.200
PGOU	19	0.382	0.2552	0.0585	0.259	to 0.505	0.240

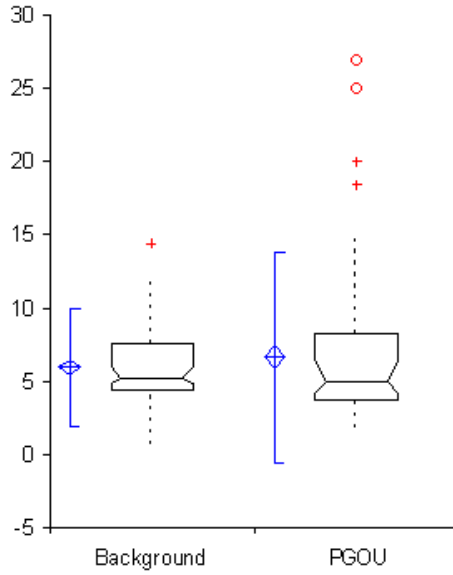
Figure L-4. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Arsenic (As): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.774	<0.0001
Skewness	2.217	<0.0001
Kurtosis	6.404	<0.0001



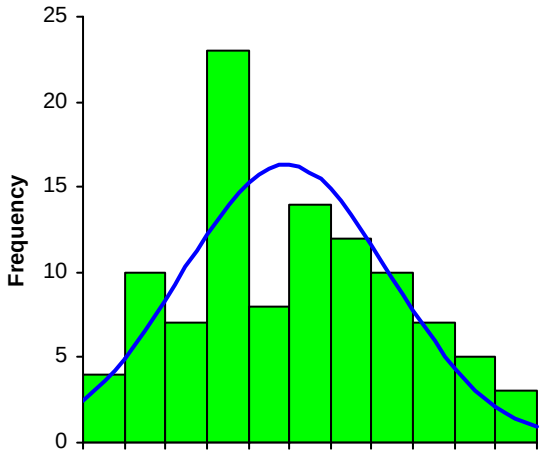


n	206			
As by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	10226.0	104.35	5209.0
PGOU	108	11095.0	102.73	5375.0
Difference between medians	0.050			
95.0% CI	–∞	to 0.650	(normal approximation)	
Mann-Whitney U statistic	5209			
1-tailed p	0.5771	(normal approximation, corrected for ties)		

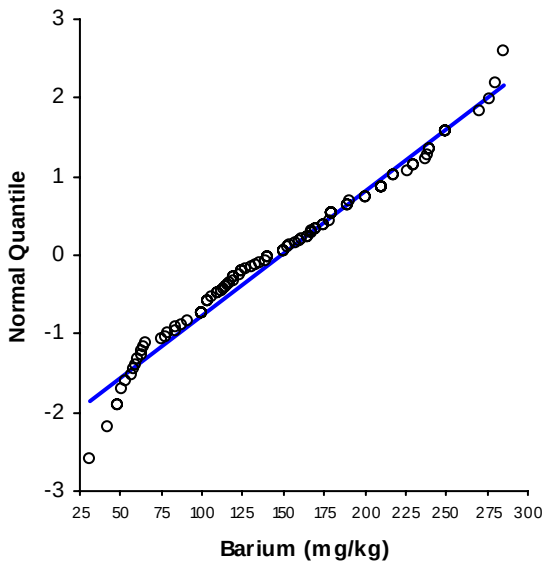
As by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	5.961	2.435	0.246	5.473	to 6.449	5.200
PGOU	108	6.668	4.397	0.423	5.829	to 7.506	5.000

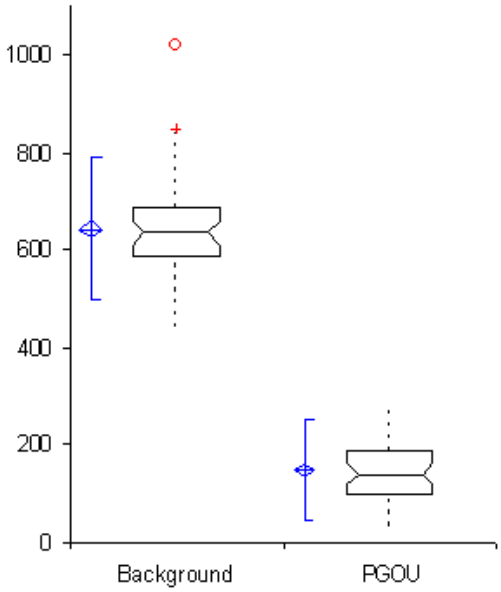
Figure L-5. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Barium (Ba): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.9747	0.0456
Skewness	0.2187	0.3472
Kurtosis	-0.8002	0.0101



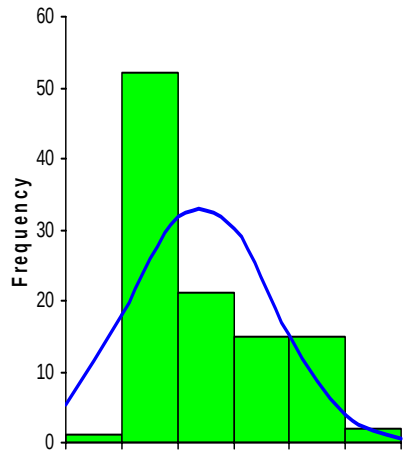


n	204			
Ba by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	15239.0	155.50	0.0
PGOU	106	5671.0	53.50	10388.0
Difference between medians	491.800			
95.0% CI	–∞	to 510.000	(normal approximation)	
Mann-Whitney U statistic	0			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

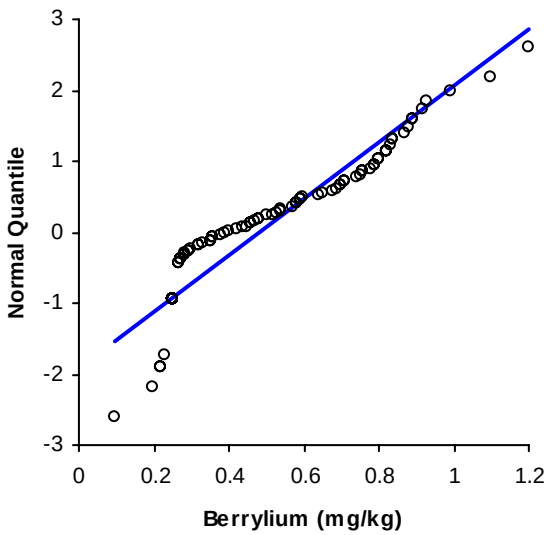
Ba by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	643.776	89.172	9.008	625.898	to 661.653	640.000
PGOU	106	147.180	62.824	6.102	135.081	to 159.279	140.000

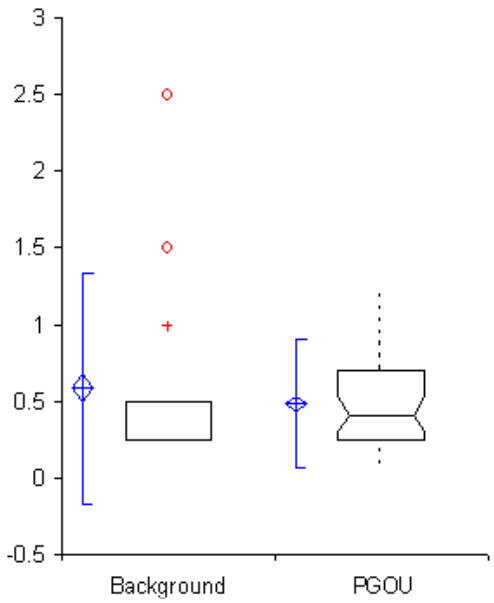
Figure L-6. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Berrylium (Be): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.8792	<0.0001
Skewness	0.6863	0.0053
Kurtosis	-0.6514	0.0611



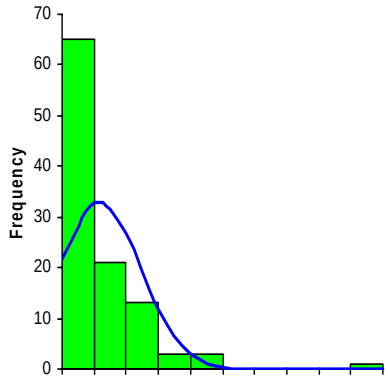


n	202			
Be by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	10254.5	104.64	4788.5
PGOU	104	10248.5	98.54	5403.5
Difference between medians	0.000			
95.0% CI	–∞	to 0.080	(normal approximation)	
Mann-Whitney U statistic	4788.5			
1-tailed p	0.7751	(normal approximation, corrected for ties)		

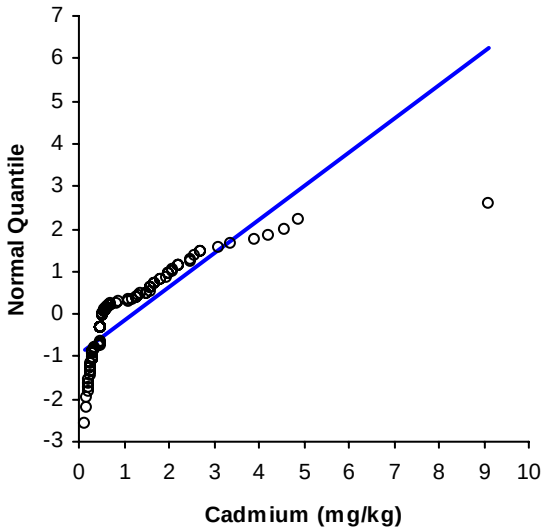
Be by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	0.582	0.4580	0.0463	0.490	to 0.673	0.500
PGOU	104	0.486	0.2527	0.0248	0.437	to 0.535	0.410

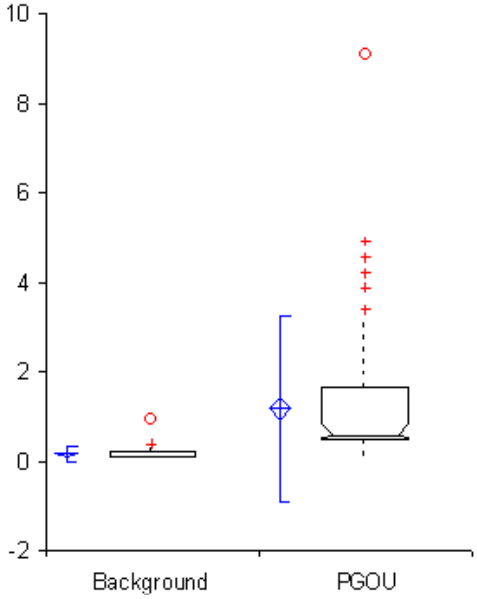
Figure L-7. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Cadmium (Cd): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.6882	<0.0001
Skewness	3.0646	<0.0001
Kurtosis	14.2324	<0.0001



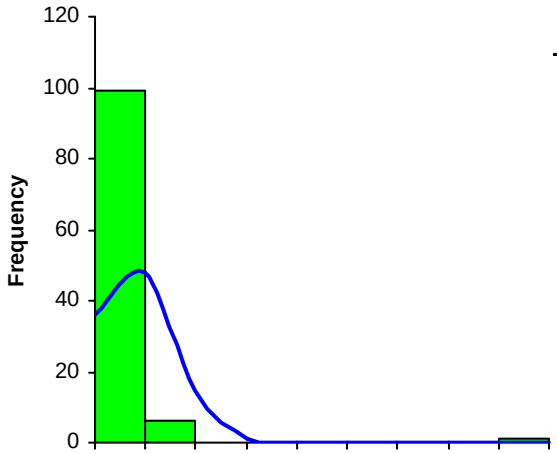


n	204			
Cd by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	5182.5	52.88	10056.5
PGOU	106	15727.5	148.37	331.5
Difference between medians	-0.450			
95.0% CI	–∞	to -0.400	(normal approximation)	
Mann-Whitney U statistic	10056.5			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

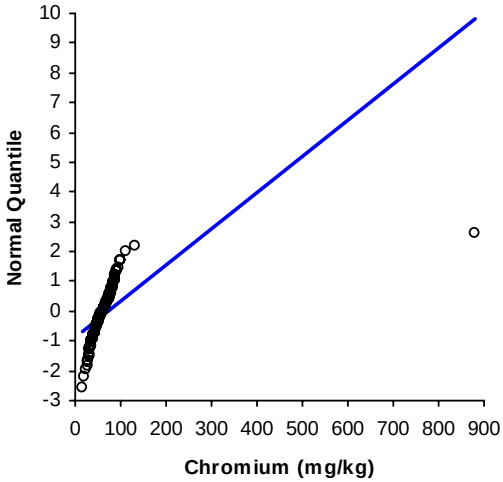
Cd by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	0.147	0.1091	0.0110	0.125	to 0.169	0.100
PGOU	106	1.169	1.2732	0.1237	0.924	to 1.414	0.540

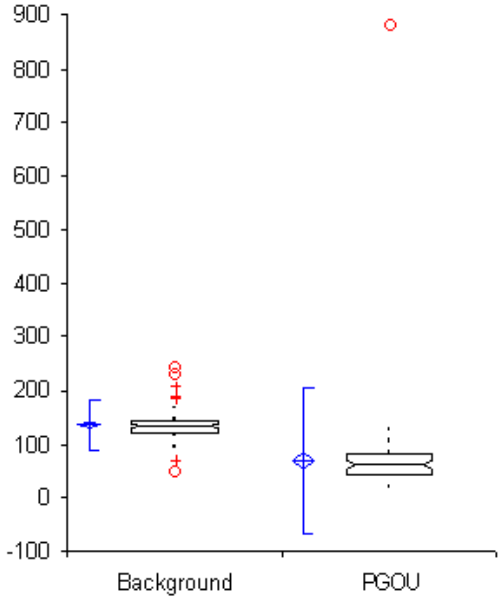
Figure L-8. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Chromium (Cr): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.2663	<0.0001
Skewness	9.1684	<0.0001
Kurtosis	90.6017	<0.0001



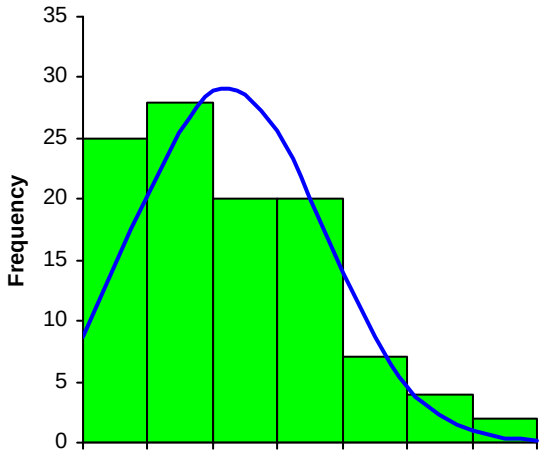


n	207			
Cr by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	15225.5	155.36	307.5
PGOU	109	6302.5	57.82	10374.5
Difference between medians	72.000			
95.0% CI	–∞	to 78.000	(normal approximation)	
Mann-Whitney U statistic	307.5			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

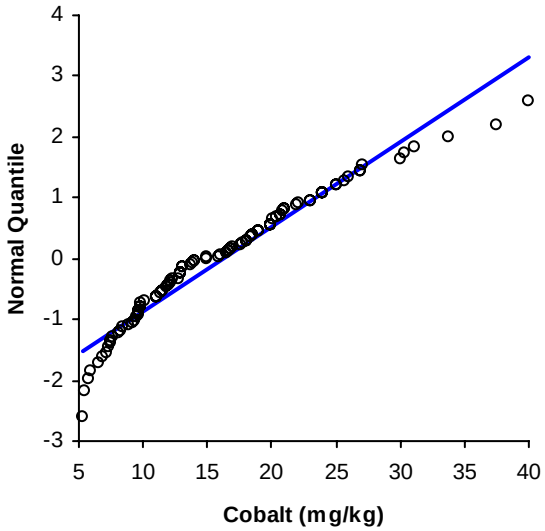
Cr by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	134.704	28.703	2.899	128.950	to 140.459	132.000
PGOU	109	68.751	81.551	7.811	53.268	to 84.234	61.300

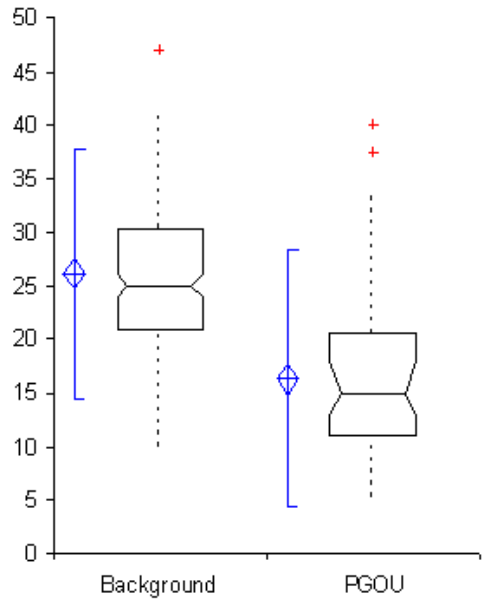
Figure L-9. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Cobalt (Co): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.9480	0.0004
Skewness	0.8329	0.0010
Kurtosis	0.6229	0.1886



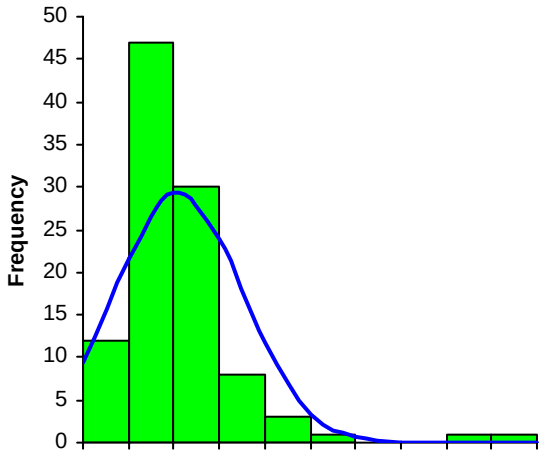


n	201			
Co by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	13289.0	135.60	1656.0
PGOU	103	7012.0	68.08	8438.0
Difference between medians	10.000			
95.0% CI	–∞	to 11.800	(normal approximation)	
Mann-Whitney U statistic	1656			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

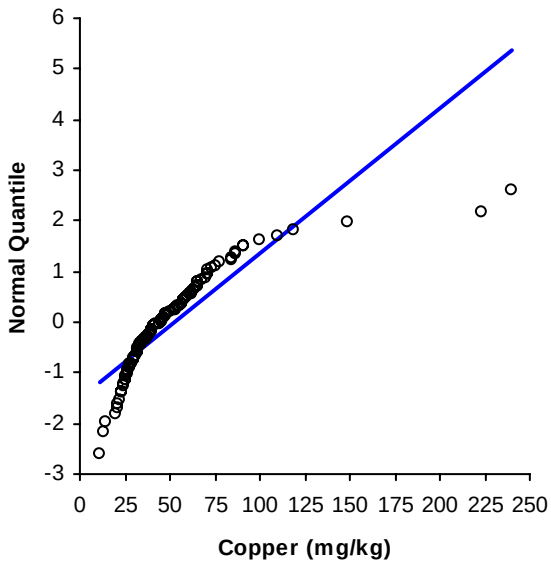
Co by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	26.082	7.119	0.719	24.654	to 27.509	25.000
PGOU	103	16.267	7.266	0.716	14.847	to 17.687	15.000

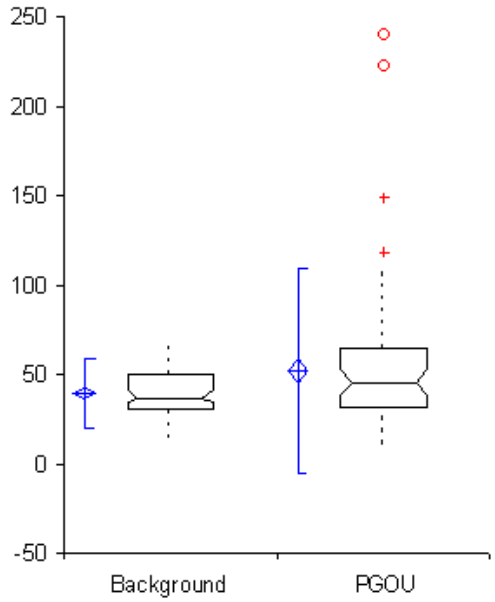
Figure L-10. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Copper (Cu): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.7345	<0.0001
Skewness	2.9821	<0.0001
Kurtosis	12.6497	<0.0001



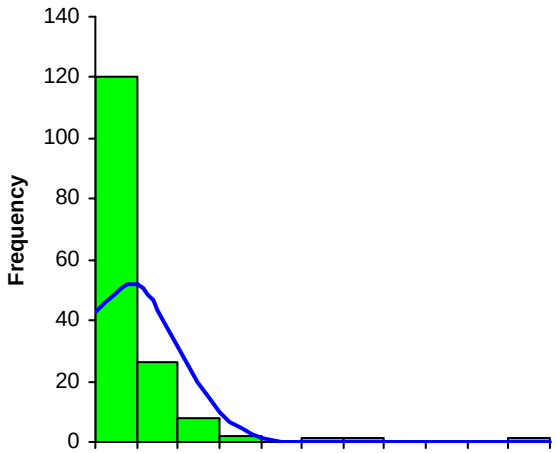


n	201			
Cu by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	8805.5	89.85	6139.5
PGOU	103	11495.5	111.61	3954.5
Difference between medians	-6.800			
95.0% CI	–∞	to -2.200	(normal approximation)	
Mann-Whitney U statistic	6139.5			
1-tailed p	0.0040	(normal approximation, corrected for ties)		

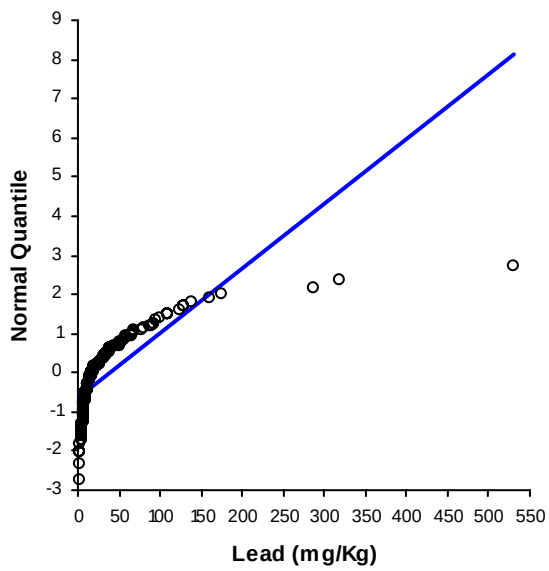
Cu by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	39.418	11.9526	1.2074	37.022	to 41.815	37.000
PGOU	103	52.488	34.8656	3.4354	45.674	to 59.302	45.000

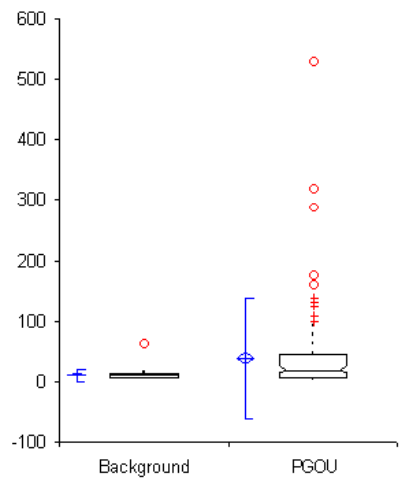
Figure L-11. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Lead(Pb): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.537	<0.0001
Skewness	4.774	<0.0001
Kurtosis	31.197	<0.0001



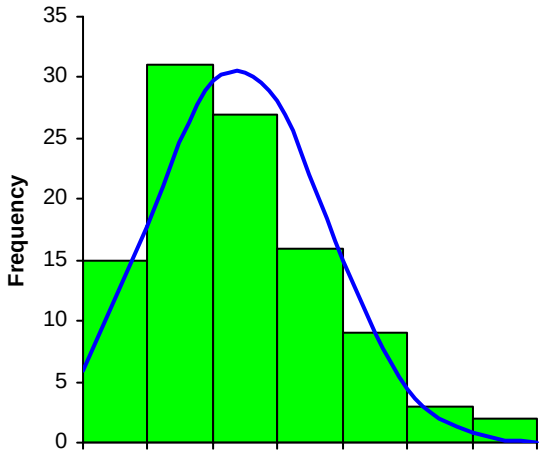


n	256			
Pb by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	9623.5	98.20	10711.5
PGOU	158	23272.5	147.29	4772.5
Difference between medians	-7.500			
Mann-Whitney U statistic	10711.5			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

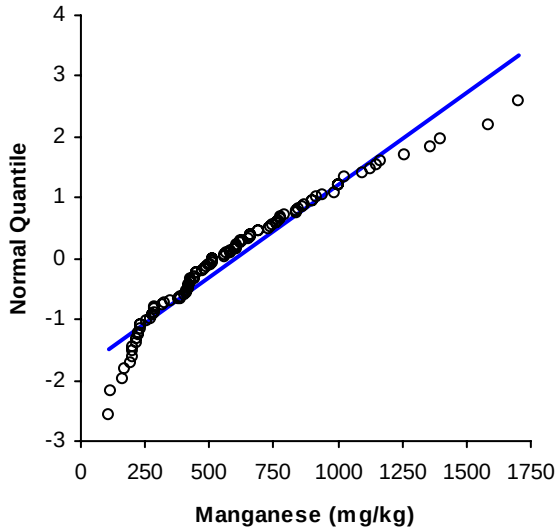
Pb by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	11.321	6.318	0.638	10.055	to 12.588	11.000
PGOU	158	39.098	60.572	4.819	29.580	to 48.616	18.000

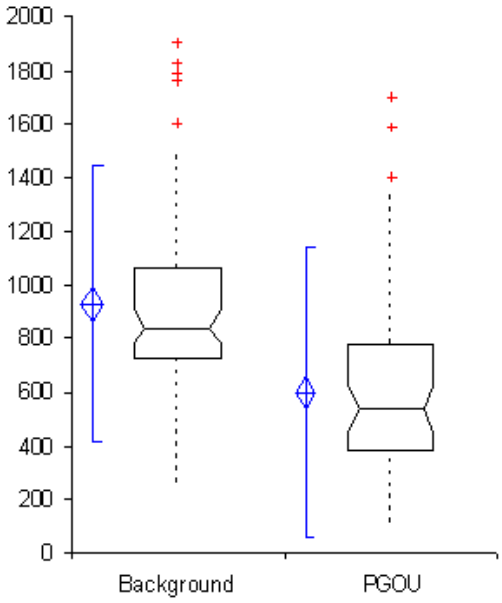
Figure L-12. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Manganese (Mn): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.9379	0.0001
Skewness	0.9502	0.0003
Kurtosis	0.8598	0.1043



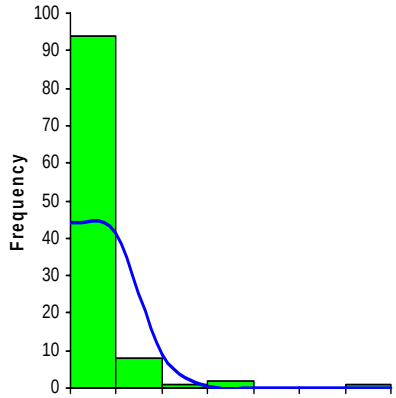


n	204			
Mn by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	12990.0	132.55	2249.0
PGOU	106	7920.0	74.72	8139.0
Difference between medians	333.000			
95.0% CI	$-\infty$	to 397.000	(normal approximation)	
Mann-Whitney U statistic	2249			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

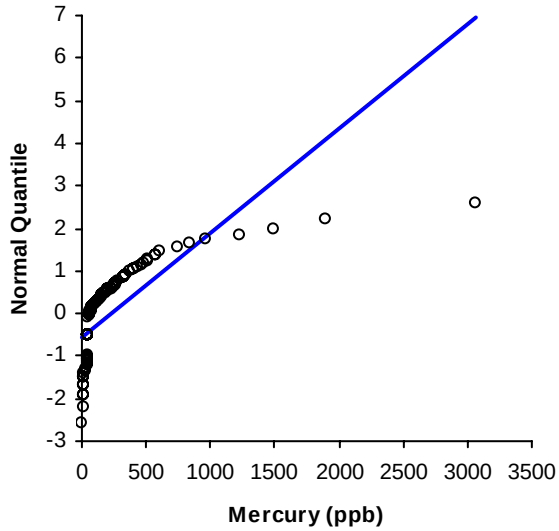
Mn by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	926.633	313.633	31.682	863.753	to 989.512	842.500
PGOU	106	598.962	326.281	31.691	536.124	to 661.800	538.500

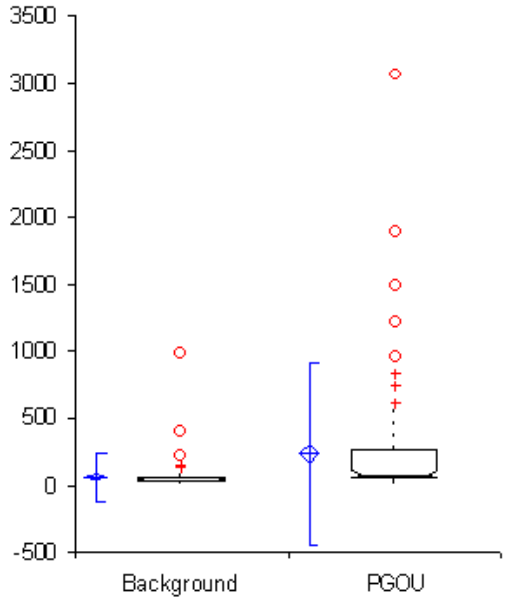
Figure L-13. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Mercury (Hg): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.5034	<0.0001
Skewness	4.4130	<0.0001
Kurtosis	24.5327	<0.0001



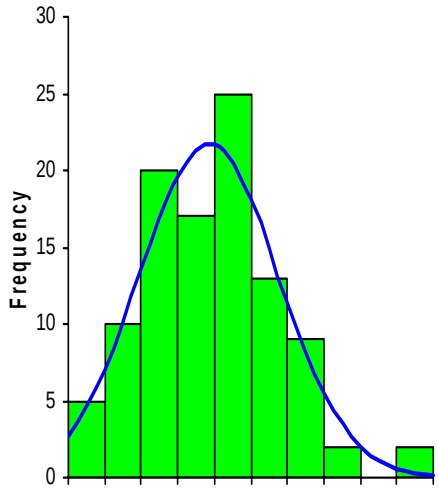


n	201			
Hg by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	7136.0	72.82	7809.0
PGOU	103	13165.0	127.82	2285.0
Difference between medians	-40.000			
95.0% CI	$-\infty$	to -30.000	(normal approximation)	
Mann-Whitney U statistic	7809			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

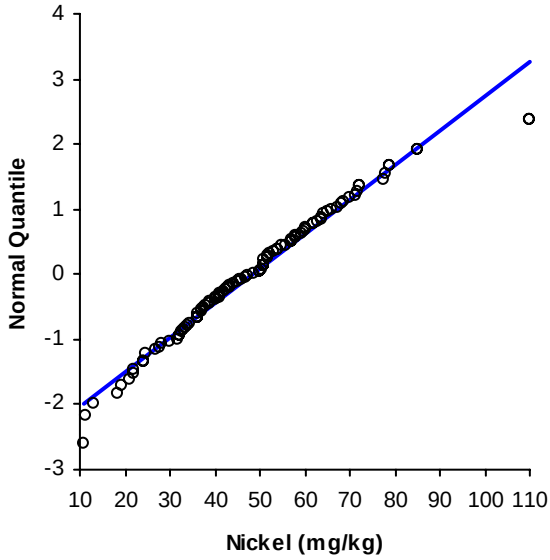
Hg by Group	**n**	**Mean**	**SD**	**SE**	**95% CI of Mean**		**Median**
Background	98	57.143	108.590	10.969	35.372	to 78.914	30.000
PGOU	103	233.403	414.746	40.866	152.345	to 314.461	67.000

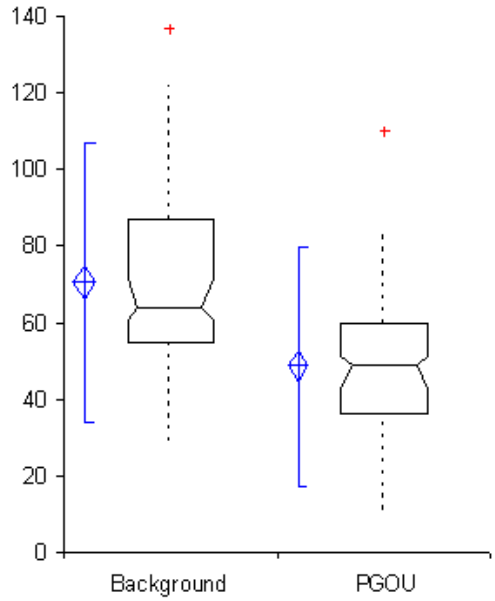
Figure L-14. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Nickel (Ni): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.9754	0.0517
Skewness	0.5751	0.0185
Kurtosis	0.8894	0.0966



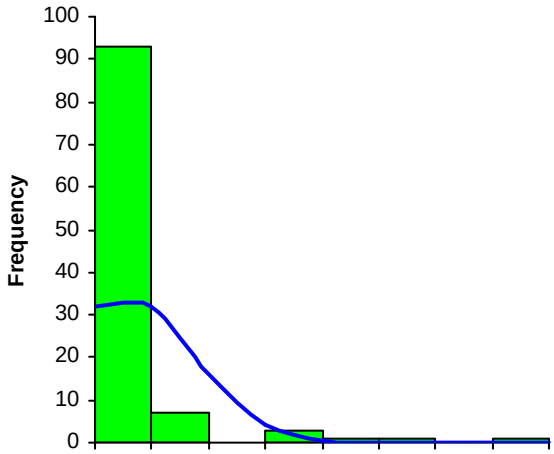


n	201			
Ni by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	12688.5	129.47	2256.5
PGOU	103	7612.5	73.91	7837.5
Difference between medians	20.900			
95.0% CI	–∞	to 25.400	(normal approximation)	
Mann-Whitney U statistic	2256.5			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

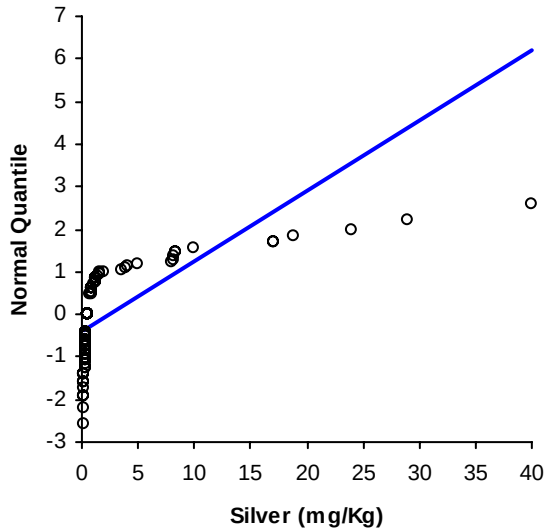
Ni by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	70.551	22.1737	2.2399	66.105	to 74.997	64.000
PGOU	103	48.513	18.9238	1.8646	44.814	to 52.211	48.600

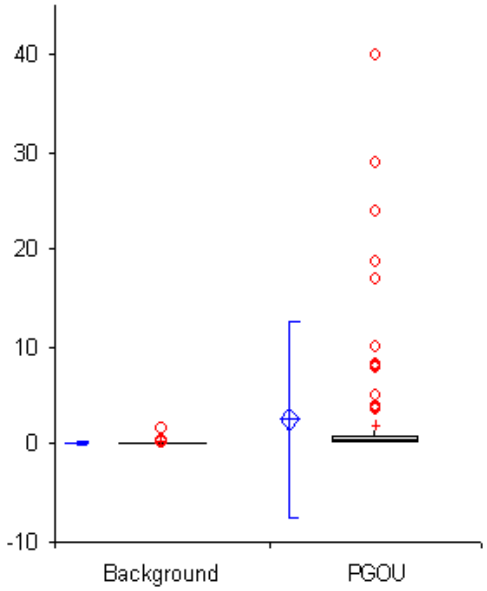
Figure L-15. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Silver (Ag): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.4094	<0.0001
Skewness	4.0609	<0.0001
Kurtosis	18.4622	<0.0001



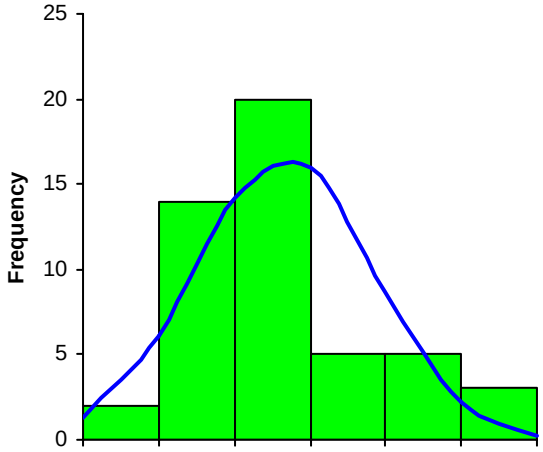


n	201			
Ag by Group	**n**	**Rank sum**	**Mean rank**	**U**
Background	98	4995.0	50.97	9950.0
PGOU	103	15306.0	148.60	144.0
Difference between medians	-0.460			
95.0% CI	–∞	to -0.440	(normal approximation)	
Mann-Whitney U statistic	9950			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

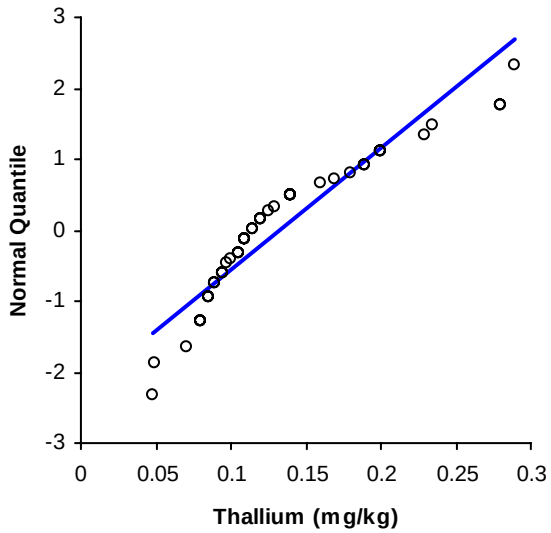
Ag by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	0.075	0.1696	0.017	0.041	to 0.109	0.040
PGOU	103	2.539	6.1265	0.604	1.341	to 3.736	0.500

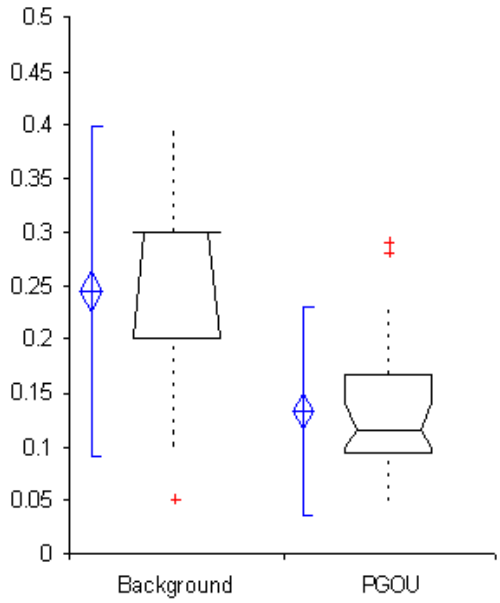
Figure L-16. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Thallium (Tl): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.884	0.0002
Skewness	1.169	0.0019
Kurtosis	0.853	0.197

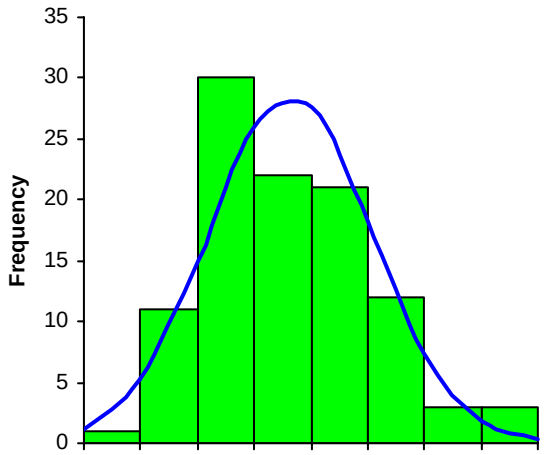




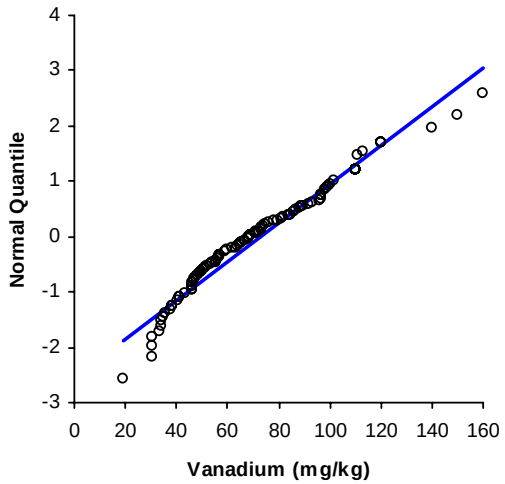
n	146						
Tl by Group	**n**	**Rank sum**	**Mean rank**	**U**			
Background	98	8766.5	89.45	788.5			
PGOU	48	1964.5	40.93	3915.5			
Difference between medians	0.110						
95.0% CI	−∞	to 0.151	(normal approximation)				
Mann-Whitney U statistic	788.5						
1-tailed p	1.0000	(normal approximation, corrected for ties)					
Tl by Group	**n**	**Mean**	**SD**	**SE**	**95% CI of Mean**		**Median**
Background	98	0.244	0.094	0.0095	0.226	to 0.263	0.300
PGOU	48	0.133	0.059	0.0085	0.116	to 0.151	0.115

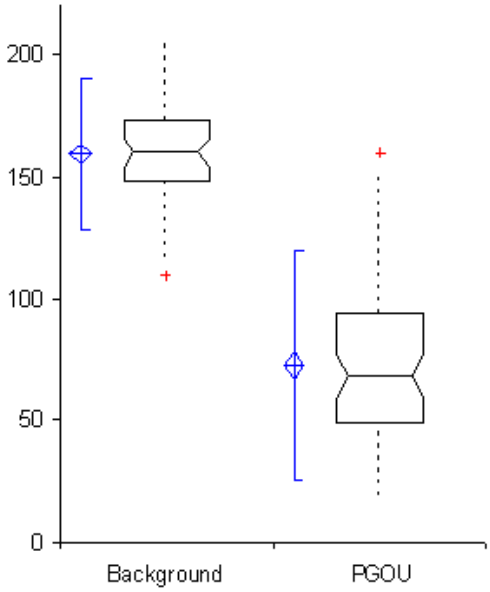
Figure L-17. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Vanadium (V): PGOU Data versus Background



	Coefficient	p
apiro-Wilk	0.964	0.006
Skewness	0.562	0.021
Kurtosis	-0.079	0.999



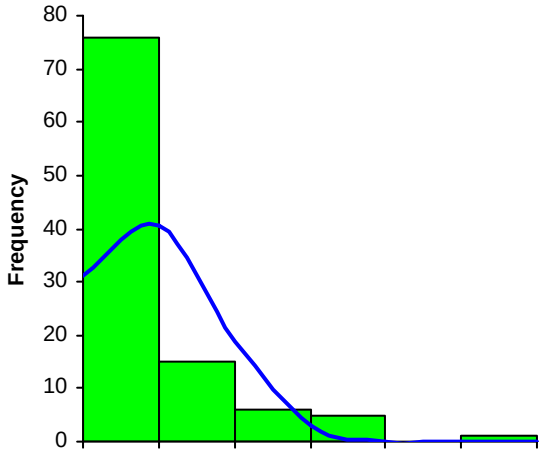


n	204			
V by Group	n	Rank sum	Mean rank	U
Background	98	15138.0	154.47	101.0
PGOU	106	5772.0	54.45	10287.0
Difference between medians	89.700			
95.0% CI	–∞	to 95.200	(normal approximation)	
Mann-Whitney U statistic	101			
1-tailed p	1.0000	(normal approximation, corrected for ties)		

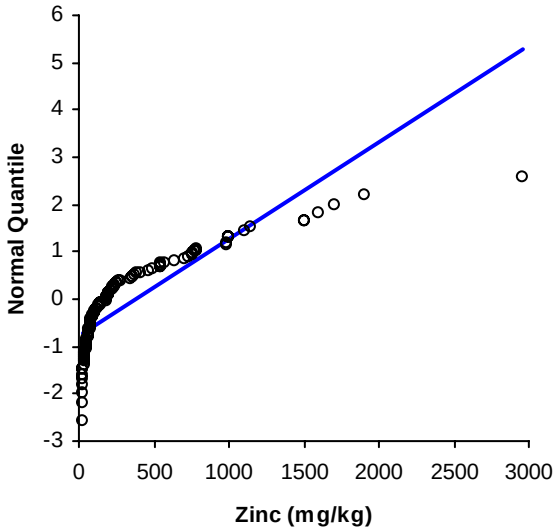
V by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	159.490	18.878	1.9070	155.705	to 163.275	160.500
PGOU	106	72.529	28.431	2.7615	67.054	to 78.005	68.650

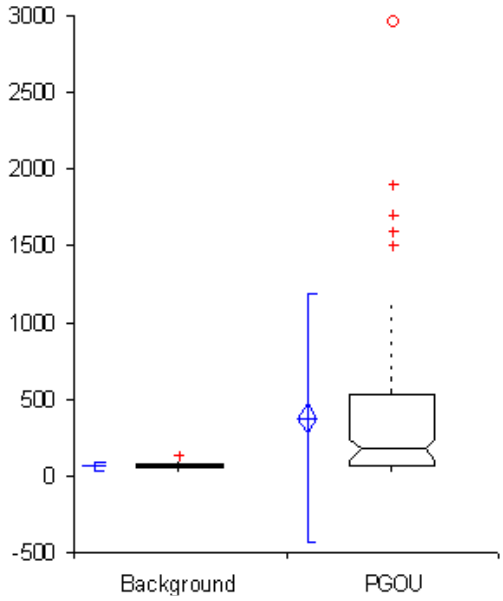
Figure L-18. RI/FS for PGOU Soil Sites in Areas 20, 21, and 49

Statistics for Zinc (Zn): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.7063	<0.0001
Skewness	2.4426	<0.0001
Kurtosis	7.7533	<0.0001

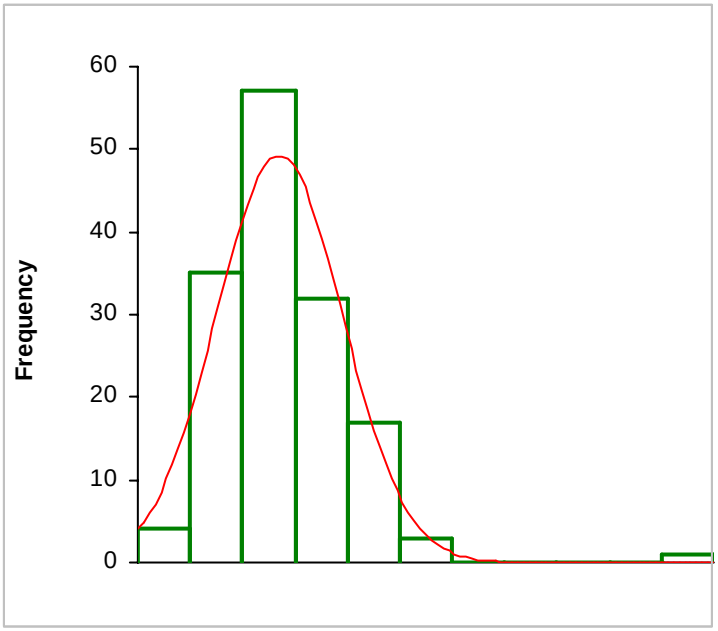




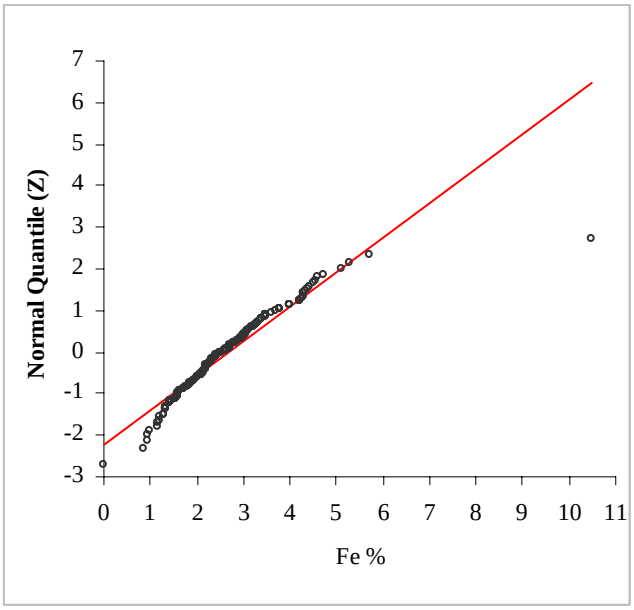
n	204			
Zinc by Group	n	Rank sum	Mean rank	U
Background	98	7248.5	73.96	7990.5
PGOU	106	13661.5	128.88	2397.5
Difference between medians	-109.0			
95.0% CI	–∞	to -63.0	(normal approximation)	
Mann-Whitney U statistic	7990.5			
1-tailed p	<0.0001	(normal approximation, corrected for ties)		

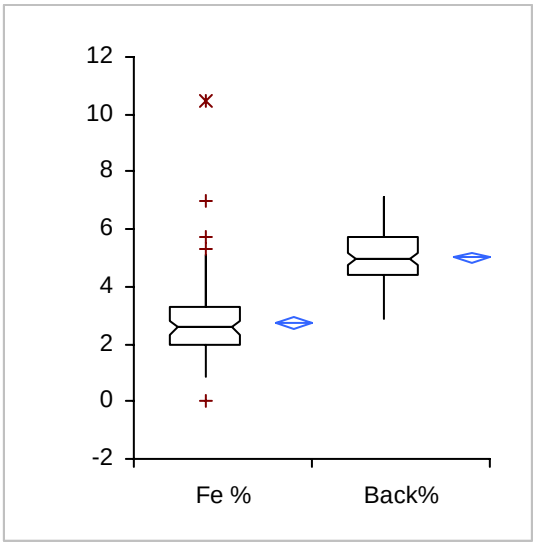
Zinc by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	63.8	17.74	1.79	60.3	to 67.4	62.5
PGOU	106	378.4	491.92	47.78	283.7	to 473.2	182.5

Statistics for Iron (Fe): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.88	<0.0001
Skewness	2.01	-
Kurtosis	10.75	-





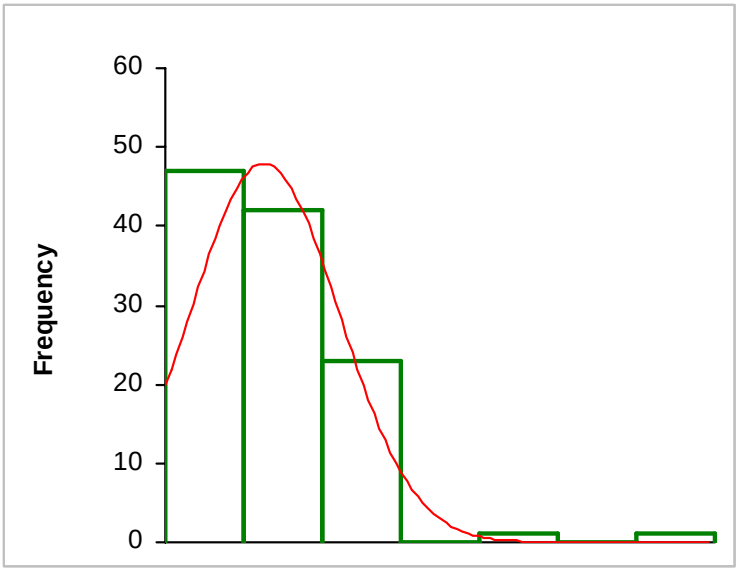
n	251

Fe by Group	n	Rank sum	Mean rank	U
Background	98	18986.5	193.74	858.5
PGOU	153	12639.5	82.61	14135.5

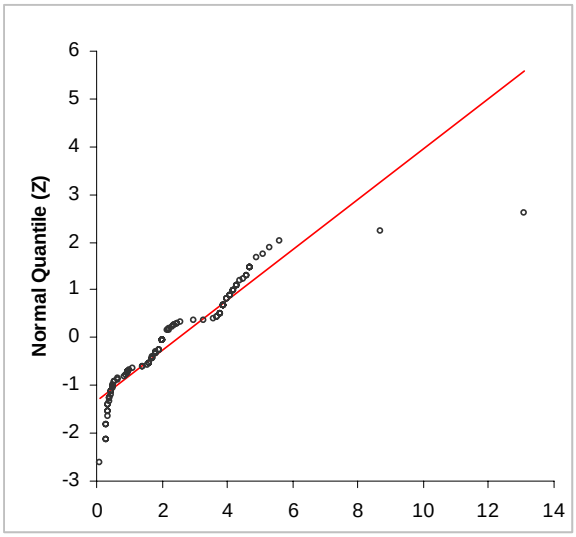
Median difference	2.390		
95.0% CI	–∞	to 2.600	(normal approximation)
Mann-Whitney's statistic	858.5		
Z statistic	11.83		
1-tailed p	1.0000	(normal approximation, corrected for ties)	

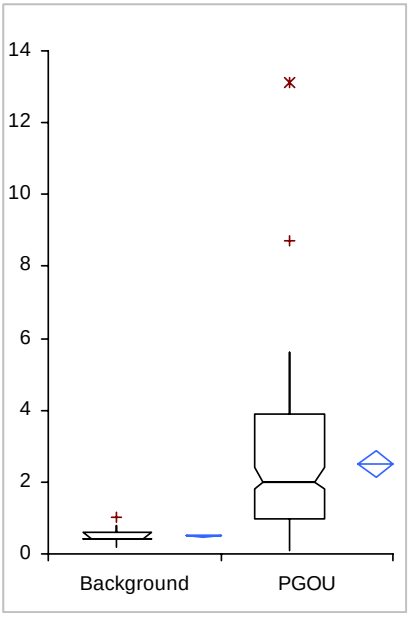
Fe by Group	n	Mean	SE	SD	95% CI		Median
Fe %	153	2.732	0.1003	1.2406	2.300	to 2.800	2.600
Back%	98	5.026	0.0920	0.9112	4.750	to 5.190	4.935

Statistics for Molybdenum (Mo): PGOU Data versus Background



	Coefficient	p
Shapiro-Wilk	0.85	<0.0001
Skewness	1.85	-
Kurtosis	7.73	-





n	206

Mo by Group	n	Rank sum	Mean rank	U
Background	98	6254.5	63.82	9180.5
PGOU	108	15066.5	139.50	1403.5

Median difference	-1.6000		
95.0% CI	–∞	to -1.4000	(normal approximation)
Mann-Whitney's statistic	9180.5		
Z statistic	-9.16		
1-tailed p	<0.0001	(normal approximation, corrected for ties)	

Mo by Group	n	Mean	SD	SE	95% CI of Mean		Median
Background	98	0.4918	0.18426	0.01861	0.4000	to 0.6000	0.4000
PGOU	108	2.5241	1.93776	0.18646	1.8300	to 2.4000	2.0000