

**Table A-1**  
**Summary of Statistical Comparison**  
**of Pond Sediment to Off-Shore Sediment<sup>1</sup>**  
**NRG-Indian River Generating Station**

Parameter	Result of t-Test	Result of Wilcoxon Rank Sum Test
Aluminum	Not Significantly Different	Not Significantly Different
Antimony	NA - Numerous NDs	Not Significantly Different
Arsenic	Not Significantly Different	Not Significantly Different
Barium	Not Significantly Different	Not Significantly Different
Beryllium	Not Significantly Different	Not Significantly Different
Cadmium	Not Significantly Different	Not Significantly Different
Calcium	Not Significantly Different	Not Significantly Different
Chromium	Not Significantly Different	Not Significantly Different
Cobalt	Not Significantly Different	Not Significantly Different
Copper	Significantly Different	Not Significantly Different
Iron	Not Significantly Different	Not Significantly Different
Lead	Not Significantly Different	Not Significantly Different
Magnesium	Not Significantly Different	Not Significantly Different
Manganese	Not Significantly Different	Not Significantly Different
Mercury	Not Significantly Different	Not Significantly Different
Nickel	Not Significantly Different	Not Significantly Different
Potassium	Not Significantly Different	Not Significantly Different
Selenium	NA - Numerous NDs	Significantly Different
Sodium	Not Significantly Different	Not Significantly Different
Thallium	NA - Numerous NDs	Significantly Different
Vanadium	Not Significantly Different	Significantly Different
Zinc	Not Significantly Different	Not Significantly Different

NA - Not applicable due to the high frequency of non-detect results.

<sup>1</sup> "Offshore" sediment includes data only from sediment samples collected "offshore" during the FE (Shaw, 2008).

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Aluminum</b>	
mg/kg	
Pond	<b>6980.00</b>
Pond	<b>18400.00</b>
Pond	<b>21300.00</b>
OS-01	18200
OS-02	5510
OS-03	10500
OS-04	15900
OS-05	15300
OS-06	14700
OS-07	15800
OS-08	15100
OS-09	14600
OS-10	13500
OS-11	13500
OS-12	14500
OS-13	16400
OS-14	3800
OS-15	11400
OS-16	3760
OS-17	1990
OS-18	5030
OS-19	10600
OS-20	12000
OS-21	10600
OS-22	12400
OS-23	1340
OS-24	2120
OS-25	1930
OS-26	3800

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	10164.6154
Variance	57314800	30311561.8
Observations	3	26
df	2	25
F	1.890856047	
P(F<=f) one-tail	0.171906501	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	67
Z	1.58
p	0.057
R'	23

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	10164.6154
Variance	57314800	30311561.8
Observations	3	26
Pooled Variance	32311801.7	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.55664695	
P(T<=t) one-tail	0.06559981	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.13119962	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	10164.6154
Variance	57314800	30311561.8
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	1.19836017	
P(T<=t) one-tail	0.17675892	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.35351784	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<u>Antimony</u> mg/kg
Pond	<b>0.41 U</b>
Pond	<b>1.60</b>
Pond	<b>1.15 U</b>
OS-01	2 U
OS-02	1.05 U
OS-03	1.45 U
OS-04	1.7 U
OS-05	1.8 U
OS-06	1.7 U
OS-07	1.8 U
OS-08	1.8 U
OS-09	1.7 U
OS-10	1.65 U
OS-11	1.65 U
OS-12	1.45 U
OS-13	1.9 U
OS-14	0.85 U
OS-15	1.65 U
OS-16	1.05 U
OS-17	0.75 U
OS-18	1 U
OS-19	1.95 U
OS-20	1.5 U
OS-21	1.45 U
OS-22	1.55 U
OS-23	0.8 U
OS-24	0.8 U
OS-25	0.8 U
OS-26	0.95 U

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.053333333	1.41346154
Variance	0.361033333	0.17191154
Observations	3	26
df	2	25
F	2.100111119	
P(F<=f) one-tail	0.143523544	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	58
Z	0.93
p	0.176
R'	32

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.053333333	1.41346154
Variance	0.361033333	0.17191154
Observations	3	26
Pooled Variance	0.18592056	
Hypothesized Mean Difference	0	
df	27	
t Stat	-1.3697513	
P(T<=t) one-tail	0.09102467	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.18204934	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.053333333	1.41346154
Variance	0.361033333	0.17191154
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.0107175	
P(T<=t) one-tail	0.20927331	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.41854661	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<b>Arsenic</b> mg/kg
Pond	<b>24.60</b>
Pond	<b>112.00</b>
Pond	<b>7.80</b>
OS-01	12.1
OS-02	34.3
OS-03	18.3
OS-04	17.5
OS-05	16.3
OS-06	14.2
OS-07	16
OS-08	12.9
OS-09	13.1
OS-10	15.2
OS-11	20.3
OS-12	26.1
OS-13	20.9
OS-14	5
OS-15	36.3
OS-16	10.8
OS-17	3.6
OS-18	3.2
OS-19	21
OS-20	29.3
OS-21	11.3
OS-22	8.8
OS-23	10.4
OS-24	7.4
OS-25	10.5
OS-26	37.4

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333333	16.6230769
Variance	3129.773333	90.4450462
Observations	3	26
df	2	25
F	34.60414325	
P(F<=f) one-tail	6.28255E-08	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	57
Z	0.86
p	0.195
R'	33

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333333	16.6230769
Variance	3129.773333	90.4450462
Observations	3	26
Pooled Variance	315.580475	
Hypothesized Mean Difference	0	
df	27	
t Stat	2.90900975	
P(T<=t) one-tail	0.00358638	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.00717277	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333333	16.6230769
Variance	3129.773333	90.4450462
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.97394239	
P(T<=t) one-tail	0.21640537	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.43281073	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<b>Barium</b> mg/kg
Pond	<b>52.00</b>
Pond	<b>139.00</b>
Pond	<b>52.20</b>
OS-01	56.4 B
OS-02	110
OS-03	106
OS-04	94.1 B
OS-05	81.2 B
OS-06	72.3 B
OS-07	95.4 B
OS-08	60.6 B
OS-09	59.8 B
OS-10	104 B
OS-11	106 B
OS-12	148
OS-13	91.2 B
OS-14	31.2 B
OS-15	68.6 B
OS-16	34.2 B
OS-17	8.7 B
OS-18	12.3 B
OS-19	38.3 B
OS-20	37.9 B
OS-21	26.6 B
OS-22	35.6 B
OS-23	35.1 B
OS-24	7.6 B
OS-25	9 B
OS-26	12.2 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	81.06666667	59.3192308
Variance	2517.213333	1512.05202
Observations	3	26
df	2	25
F	1.664766362	
P(F<=f) one-tail	0.20953543	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	55
Z	0.72
p	0.236
R'	35

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	81.06666667	59.3192308
Variance	2517.21333	1512.05202
Observations	3	26
Pooled Variance	1586.50841	
Hypothesized Mean Difference	0	
df	27	
t Stat	0.89543728	
P(T<=t) one-tail	0.18923365	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.3784673	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	81.06666667	59.3192308
Variance	2517.21333	1512.05202
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.72603391	
P(T<=t) one-tail	0.27164342	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.54328685	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Beryllium</b>	
mg/kg	
Pond	<b>0.68</b>
Pond	<b>2.40</b>
Pond	<b>1.10</b>
OS-01	1.9
OS-02	0.69 B
OS-03	1.2
OS-04	1.3
OS-05	1.3
OS-06	1.3
OS-07	1.3
OS-08	1.4
OS-09	1.3
OS-10	1.3
OS-11	1.3
OS-12	1.6
OS-13	1.4
OS-14	0.3 B
OS-15	1.2
OS-16	0.46 B
OS-17	0.17 B
OS-18	0.4 B
OS-19	0.95 B
OS-20	0.92 B
OS-21	0.84 B
OS-22	0.94 B
OS-23	0.14 B
OS-24	0.18 B
OS-25	0.2 B
OS-26	0.33 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333333	0.93538462
Variance	0.804133333	0.26228185
Observations	3	26
df	2	25
F	3.065913044	
P(F<=f) one-tail	0.06444551	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	53
Z	0.57
p	0.284
R'	37

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333333	0.93538462
Variance	0.804133333	0.26228185
Observations	3	26
Pooled Variance	0.30241899	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.36571669	
P(T<=t) one-tail	0.09164896	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.18329792	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333333	0.93538462
Variance	0.804133333	0.26228185
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.8683428	
P(T<=t) one-tail	0.23837591	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.47675182	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

**Cadmium**  
mg/kg

Pond	0.41 U
Pond	1.00 U
Pond	1.15 U
OS-01	0.69 B
OS-02	0.23 B
OS-03	0.38 B
OS-04	0.44 B
OS-05	0.53 B
OS-06	0.44 B
OS-07	0.49 B
OS-08	0.49 B
OS-09	0.38 B
OS-10	0.45 B
OS-11	0.46 B
OS-12	0.44 B
OS-13	0.52 B
OS-14	0.13 B
OS-15	0.115 U
OS-16	0.075 U
OS-17	0.055 U
OS-18	0.07 U
OS-19	0.135 U
OS-20	0.1 U
OS-21	0.1 U
OS-22	0.105 U
OS-23	0.055 U
OS-24	0.055 U
OS-25	0.055 U
OS-26	0.065 U

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.853333333	0.27134615
Variance	0.153033333	0.04144312
Observations	3	26
df	2	25
F	3.692611714	
P(F<=f) one-tail	0.039347205	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	32
Z	-0.93
p	0.176
R'	58

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.853333333	0.27134615
Variance	0.153033333	0.04144312
Observations	3	26
Pooled Variance	0.04970906	
Hypothesized Mean Difference	0	
df	27	
t Stat	4.28098746	
P(T<=t) one-tail	0.00010484	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.00020968	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.853333333	0.27134615
Variance	0.153033333	0.04144312
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	2.53746223	
P(T<=t) one-tail	0.06325148	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.12650296	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<b>Calcium</b> mg/kg
Pond	<b>796</b>
Pond	<b>2180</b>
Pond	<b>4550</b>
OS-01	2940 B
OS-02	955 B
OS-03	1800 B
OS-04	2400 B
OS-05	2380 B
OS-06	2280 B
OS-07	2280 B
OS-08	2220 B
OS-09	2340 B
OS-10	2190 B
OS-11	2260 B
OS-12	2460 B
OS-13	2650 B
OS-14	621 B
OS-15	2030 B
OS-16	9100
OS-17	433 B
OS-18	794 B
OS-19	2830 B
OS-20	1940 B
OS-21	2170 B
OS-22	2290 B
OS-23	236 B
OS-24	404 B
OS-25	367 B
OS-26	773 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2508.666667	2043.96154
Variance	3604145.333	2807498.92
Observations	3	26
df	2	25
F	1.283756624	
P(F<=f) one-tail	0.2946322	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	50
Z	0.36
p	0.359
R'	40

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2508.66667	2043.96154
Variance	3604145.33	2807498.92
Observations	3	26
Pooled Variance	2866509.76	
Hypothesized Mean Difference	0	
df	27	
t Stat	0.4501415	
P(T<=t) one-tail	0.328101	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.65620201	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2508.66667	2043.96154
Variance	3604145.33	2807498.92
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.40611358	
P(T<=t) one-tail	0.3619947	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.7239894	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Chromium</b>	
mg/kg	
Pond	12.7
Pond	38.3
Pond	43.2
OS-01	43.9
OS-02	12.8
OS-03	25.8
OS-04	35.8
OS-05	34.8
OS-06	33.6
OS-07	35.7
OS-08	35.1
OS-09	33.2
OS-10	30.9
OS-11	31.1
OS-12	33.5
OS-13	37.3
OS-14	7.8
OS-15	27.8
OS-16	9.3
OS-17	4.5
OS-18	10.7
OS-19	26.8
OS-20	27.7
OS-21	25.1
OS-22	27
OS-23	8.5
OS-24	4.2
OS-25	4.2
OS-26	8.4

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.4	23.6730769
Variance	268.27	157.175646
Observations	3	26
df	2	25
F	1.706816587	
P(F<=f) one-tail	0.201913563	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	64
Z	1.36
p	0.087
R'	26

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.4	23.6730769
Variance	268.27	157.175646
Observations	3	26
Pooled Variance	165.404858	
Hypothesized Mean Difference	0	
df	27	
t Stat	0.98532786	
P(T<=t) one-tail	0.16660552	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.33321103	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.4	23.6730769
Variance	268.27	157.175646
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.79081778	
P(T<=t) one-tail	0.25596659	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.51193318	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

**Cobalt**  
mg/kg

Pond	3.1
Pond	9.4
Pond	8.7
OS-01	11.8 B
OS-02	4.7 B
OS-03	7.8 B
OS-04	10.1 B
OS-05	9.7 B
OS-06	8.8 B
OS-07	9.8 B
OS-08	9.5 B
OS-09	8.7 B
OS-10	9.3 B
OS-11	8.6 B
OS-12	9.1 B
OS-13	8.5 B
OS-14	2.1 B
OS-15	7.4 B
OS-16	3.5 B
OS-17	1.3 B
OS-18	2.6 B
OS-19	6.4 B
OS-20	5.9 B
OS-21	5.4 B
OS-22	6.7 B
OS-23	0.85 B
OS-24	0.92 B
OS-25	1.3 B
OS-26	1.9 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	7.066666667	6.25653846
Variance	11.92333333	11.6803115
Observations	3	26
df	2	25
F	1.020806106	
P(F<=f) one-tail	0.374837344	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	51.5
Z	0.47
p	0.319
R'	38.5

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	7.066666667	6.25653846
Variance	11.92333333	11.6803115
Observations	3	26
Pooled Variance	11.6983132	
Hypothesized Mean Difference	0	
df	27	
t Stat	0.38845475	
P(T<=t) one-tail	0.35036289	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.70072579	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	7.066666667	6.25653846
Variance	11.92333333	11.6803115
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.38517807	
P(T<=t) one-tail	0.36860531	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.73721062	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Copper</b>	
mg/kg	
Pond	<b>12.8</b>
Pond	<b>44.5</b>
Pond	<b>36.6</b>
OS-01	39.4
OS-02	13.1
OS-03	23.5
OS-04	28.1
OS-05	28.5
OS-06	27.1
OS-07	28
OS-08	28.6
OS-09	25.4
OS-10	26.4
OS-11	24.9
OS-12	27.2
OS-13	29.1
OS-14	5.8 B
OS-15	23.5
OS-16	9.7
OS-17	3.6 B
OS-18	7.2 B
OS-19	18
OS-20	17.3
OS-21	13.3
OS-22	12.8 B
OS-23	2.8 B
OS-24	2.4 B
OS-25	2.4 B
OS-26	4.7 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	18.1846154
Variance	272.29	116.631754
Observations	3	26
df	2	25
F	2.334612925	
P(F<=f) one-tail	0.11760409	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	65.5
Z	1.47
p	0.071
R'	24.5

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	18.1846154
Variance	272.29	116.631754
Observations	3	26
Pooled Variance	128.161994	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.89998296	
P(T<=t) one-tail	<b>0.03408232</b>	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.06816463	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	18.1846154
Variance	272.29	116.631754
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	1.34384887	
P(T<=t) one-tail	0.15557866	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.31115732	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<b>Iron</b> mg/kg
Pond	<b>6160</b>
Pond	<b>19800</b>
Pond	<b>26400</b>
OS-01	34900
OS-02	21100
OS-03	28200
OS-04	34600
OS-05	32600
OS-06	29800
OS-07	32600
OS-08	30300
OS-09	28800
OS-10	31200
OS-11	27100
OS-12	26400
OS-13	27100
OS-14	6770
OS-15	24500
OS-16	11700
OS-17	3690
OS-18	7960
OS-19	22600
OS-20	19700
OS-21	17500
OS-22	20400
OS-23	3910
OS-24	3670
OS-25	4120
OS-26	6410

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	17453.33333	20678.0769
Variance	106544533.3	120272224
Observations	3	26
df	2	25
F	0.885861504	
P(F<=f) one-tail	0.575090861	
F Critical one-tail	0.051398679	

<b>Wilcoxon Rank Sum Test</b>	
R	34
Z	-0.79
p	0.215
R'	56

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	17453.3333	20678.0769
Variance	106544533	120272224
Observations	3	26
Pooled Variance	119255358	
Hypothesized Mean Difference	0	
df	27	
t Stat	-0.4842889	
P(T<=t) one-tail	0.31604309	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.63208618	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	17453.3333	20678.0769
Variance	106544533	120272224
Observations	3	26
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.5089823	
P(T<=t) one-tail	0.32291868	
t Critical one-tail	2.35336343	
P(T<=t) two-tail	0.64583736	
t Critical two-tail	3.1824463	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<u>Lead</u> mg/kg
Pond	<b>8.2</b>
Pond	<b>28.0</b>
Pond	<b>23.4</b>
OS-01	25.3
OS-02	6.3
OS-03	14.2
OS-04	18.6
OS-05	18.8
OS-06	16.8
OS-07	17.8
OS-08	19.4
OS-09	17.8
OS-10	16.3
OS-11	16.6
OS-12	18.7
OS-13	19.3
OS-14	4.3
OS-15	16.4
OS-16	6.9
OS-17	3.1
OS-18	7.2
OS-19	16.9
OS-20	15.8
OS-21	13.8
OS-22	16.3
OS-23	1.5
OS-24	2.6
OS-25	3.6
OS-26	6.2

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	19.86666667	13.0961538
Variance	107.3733333	45.0235846
Observations	3	26
df	2	25
F	2.384824182	
P(F<=f) one-tail	0.112740199	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	66
Z	1.50
p	0.067
R'	24

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	19.86666667	13.0961538
Variance	107.3733333	45.0235846
Observations	3	26
Pooled Variance	49.6420845	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.57595881	
P(T<=t) one-tail	0.06334069	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.12668138	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	19.86666667	13.0961538
Variance	107.3733333	45.0235846
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	1.10528434	
P(T<=t) one-tail	0.1921036	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.3842072	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Magnesium</b>	
mg/kg	
Pond	<b>1710</b>
Pond	<b>3900</b>
Pond	<b>1300</b>
OS-01	7650
OS-02	1790 B
OS-03	4200
OS-04	5680
OS-05	5700
OS-06	5400
OS-07	5230
OS-08	5290
OS-09	5390
OS-10	4690
OS-11	4460
OS-12	4530
OS-13	5590
OS-14	1150 B
OS-15	4250
OS-16	1880
OS-17	745 B
OS-18	1930
OS-19	5120
OS-20	4630
OS-21	4510
OS-22	5000
OS-23	281 B
OS-24	657 B
OS-25	756 B
OS-26	1170 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2303.333333	3756.88462
Variance	1954033.333	4279913.55
Observations	3	26
df	2	25
F	0.456559067	
P(F<=f) one-tail	0.361362859	
F Critical one-tail	0.051398679	

<b>Wilcoxon Rank Sum Test</b>	
R	27
Z	-1.29
p	0.099
R'	63

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2303.33333	3756.88462
Variance	1954033.33	4279913.55
Observations	3	26
Pooled Variance	4107626.12	
Hypothesized Mean Difference	0	
df	27	
t Stat	-1.1762055	
P(T<=t) one-tail	0.12488977	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.24977954	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2303.33333	3756.88462
Variance	1954033.33	4279913.55
Observations	3	26
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.6091512	
P(T<=t) one-tail	0.10297828	
t Critical one-tail	2.35336343	
P(T<=t) two-tail	0.20595656	
t Critical two-tail	3.1824463	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

<b>Manganese</b>	
mg/kg	
Pond	<b>31.8</b>
Pond	<b>72.4</b>
Pond	<b>200</b>
OS-01	212
OS-02	55.6
OS-03	117
OS-04	161
OS-05	156
OS-06	148
OS-07	155
OS-08	144
OS-09	152
OS-10	130
OS-11	124
OS-12	121
OS-13	155
OS-14	32.5
OS-15	114
OS-16	53.7
OS-17	21.3
OS-18	55.9
OS-19	131
OS-20	122
OS-21	116
OS-22	126
OS-23	6.5
OS-24	18.4
OS-25	17.6
OS-26	41

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	103.326923
Variance	7703.56	3174.70365
Observations	3	26
df	2	25
F	2.426544603	
P(F<=f) one-tail	0.108863959	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	44
Z	-0.07
p	0.472
R'	46

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	103.326923
Variance	7703.56	3174.70365
Observations	3	26
Pooled Variance	3510.17449	
Hypothesized Mean Difference	0	
df	27	
t Stat	-0.0533394	
P(T<=t) one-tail	0.47892709	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.95785418	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	103.326923
Variance	7703.56	3174.70365
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.0371528	
P(T<=t) one-tail	0.48686903	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.97373806	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<u>Mercury</u> mg/kg
Pond	<b>0.047 J</b>
Pond	<b>0.17</b>
Pond	<b>0.16</b>
OS-01	0.17
OS-02	0.12
OS-03	0.15
OS-04	0.15
OS-05	0.19
OS-06	0.18
OS-07	0.15
OS-08	0.15
OS-09	0.2
OS-10	0.17
OS-11	0.26
OS-12	0.25
OS-13	0.2
OS-14	0.04 B
OS-15	0.2
OS-16	0.11
OS-17	0.05
OS-18	0.09
OS-19	0.14
OS-20	0.13
OS-21	0.12
OS-22	0.24
OS-23	0.07
OS-24	0.03 B
OS-25	0.01 U
OS-26	0.05 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.125666667	0.13923077
Variance	0.004666333	0.00471938
Observations	3	26
df	2	25
F	0.988758856	
P(F<=f) one-tail	0.613877349	
F Critical one-tail	0.051398679	

<b>Wilcoxon Rank Sum Test</b>	
R	42
Z	-0.21
p	0.417
R'	48

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.125666667	0.13923077
Variance	0.004666333	0.00471938
Observations	3	26
Pooled Variance	0.00471545	
Hypothesized Mean Difference	0	
df	27	
t Stat	-0.3239497	
P(T<=t) one-tail	0.37423614	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.74847228	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	0.125666667	0.1428
Variance	0.004666333	0.004571
Observations	3	25
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.4109429	
P(T<=t) one-tail	0.3604807	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.7209614	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

	<b>Nickel</b>
	mg/kg
Pond	<b>10.4</b>
Pond	<b>28.5</b>
Pond	<b>22</b>
OS-01	26 B
OS-02	11.9 B
OS-03	18.5 B
OS-04	24.6
OS-05	23.2 B
OS-06	22.1 B
OS-07	24
OS-08	22.2 B
OS-09	20.7 B
OS-10	22.2
OS-11	21.4 B
OS-12	22.5
OS-13	22.2 B
OS-14	5.6 B
OS-15	17.8 B
OS-16	7.9 B
OS-17	2.9 B
OS-18	6.2 B
OS-19	15.3 B
OS-20	14.8 B
OS-21	13.1 B
OS-22	14.4 B
OS-23	7 B
OS-24	2.3 B
OS-25	2.2 B
OS-26	4.3 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	20.3	15.2038462
Variance	84.07	63.8395846
Observations	3	26
df	2	25
F	1.316894533	
P(F<=f) one-tail	0.285920063	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	57
Z	0.86
p	0.195
R'	33

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	20.3	15.2038462
Variance	84.07	63.8395846
Observations	3	26
Pooled Variance	65.3381339	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.03396888	
P(T<=t) one-tail	0.15516178	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.31032357	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	20.3	15.2038462
Variance	84.07	63.8395846
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.92309053	
P(T<=t) one-tail	0.22670466	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.45340933	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

**Potassium**  
mg/kg

Pond	<b>1000</b>
Pond	<b>2830</b>
Pond	<b>4870</b>
OS-01	3600
OS-02	999 B
OS-03	2040 B
OS-04	2920
OS-05	2840 B
OS-06	2710 B
OS-07	2810 B
OS-08	2710 B
OS-09	2720 B
OS-10	2380 B
OS-11	2360 B
OS-12	2510 B
OS-13	2990 B
OS-14	621 B
OS-15	2040 B
OS-16	793 B
OS-17	345 B
OS-18	920 B
OS-19	2360 B
OS-20	2320 B
OS-21	2160 B
OS-22	2630
OS-23	123 B
OS-24	325 B
OS-25	342 B
OS-26	556 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2900	1889.38462
Variance	3747900	1103089.61
Observations	3	26
df	2	25
F	3.397638759	
P(F<=f) one-tail	0.049512785	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	63
Z	1.29
p	0.099
R'	27

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2900	1889.38462
Variance	3747900	1103089.61
Observations	3	26
Pooled Variance	1299001.49	
Hypothesized Mean Difference	0	
df	27	
t Stat	1.45421756	
P(T<=t) one-tail	0.07870648	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.15741296	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	2900	1889.38462
Variance	3747900	1103089.61
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.88920238	
P(T<=t) one-tail	0.2338567	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.46771341	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

**Selenium**  
mg/kg

Pond	4.2
Pond	10.2
Pond	2.0 J
OS-01	1.45 U
OS-02	1.9
OS-03	1.05 U
OS-04	1.25 U
OS-05	2.8 B
OS-06	1.25 U
OS-07	3.4
OS-08	3.4
OS-09	2.6 B
OS-10	2.8
OS-11	1.2 U
OS-12	2.7
OS-13	1.35 U
OS-14	0.6 U
OS-15	1.2 U
OS-16	0.75 U
OS-17	0.55 U
OS-18	0.75 U
OS-19	1.4 U
OS-20	1.05 U
OS-21	1.05 U
OS-22	1.1 U
OS-23	0.6 U
OS-24	0.55 U
OS-25	0.6 U
OS-26	0.7 U

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	Variable 1	Variable 2
Mean	5.466666667	1.46346154
Variance	18.01333333	0.81931154
Observations	3	26
df	2	25
F	21.98593879	
P(F<=f) one-tail	3.09635E-06	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	80
Z	2.51
p	0.006
R'	10

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	Variable 1	Variable 2
Mean	5.466666667	1.46346154
Variance	18.01333333	0.81931154
Observations	3	26
Pooled Variance	2.09294278	
Hypothesized Mean Difference	0	
df	27	
t Stat	4.5381356	
P(T<=t) one-tail	5.2672E-05	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.00010534	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	Variable 2
Mean	5.466666667	1.46346154
Variance	18.01333333	0.81931154
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	1.62942658	
P(T<=t) one-tail	0.12238998	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.24477995	
t Critical two-tail	4.30265273	

**Table A-2  
Statistical Comparison of Pond Sediment to Off-Shore Sediment  
NRG-Indian River Generating Station**

	<b>Sodium</b>
	mg/kg
Pond	<b>4000</b>
Pond	<b>9210</b>
Pond	<b>32800</b>
OS-01	12100
OS-02	4420
OS-03	7750
OS-04	9440
OS-05	10300
OS-06	9380
OS-07	7820
OS-08	7480
OS-09	9150
OS-10	8030
OS-11	7480
OS-12	7610
OS-13	8990
OS-14	2460
OS-15	5750
OS-16	5650
OS-17	1890
OS-18	4640
OS-19	14000
OS-20	7960
OS-21	8920
OS-22	10400
OS-23	1620
OS-24	1360
OS-25	2260
OS-26	1130 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15336.66667	6845.76923
Variance	235512033.3	12191681.4
Observations	3	26
df	2	25
F	19.31743669	
P(F<=f) one-tail	8.47345E-06	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	58
Z	0.93
p	0.176
R'	32

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15336.6667	6845.76923
Variance	235512033	12191681.4
Observations	3	26
Pooled Variance	28733929.7	
Hypothesized Mean Difference	0	
df	27	
t Stat	2.59779206	
P(T<=t) one-tail	0.00750511	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.01501023	
t Critical two-tail	2.05183049	
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	15336.6667	6845.76923
Variance	235512033	12191681.4
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.95546436	
P(T<=t) one-tail	0.22008846	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.44017692	
t Critical two-tail	4.30265273	

**Table A-2**  
**Statistical Comparison of Pond Sediment to Off-Shore Sediment**  
**NRG-Indian River Generating Station**

**Thallium**  
mg/kg

Pond	<b>1.9</b>
Pond	<b>3.3</b>
Pond	<b>0.235 U</b>
OS-01	1.65 U
OS-02	0.85 U
OS-03	1.15 U
OS-04	1.4 U
OS-05	1.45 U
OS-06	1.4 U
OS-07	1.45 U
OS-08	1.45 U
OS-09	1.35 U
OS-10	1.3 U
OS-11	1.35 U
OS-12	1.15 U
OS-13	1.55 U
OS-14	0.65 U
OS-15	1.35 U
OS-16	0.85 U
OS-17	0.65 U
OS-18	0.85 U
OS-19	1.6 U
OS-20	1.2 U
OS-21	1.15 U
OS-22	1.25 U
OS-23	0.65 U
OS-24	0.65 U
OS-25	0.65 U
OS-26	0.75 U

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.811666667	1.14423077
Variance	2.354408333	0.11366538
Observations	3	26
df	2	25
F	20.71350342	
P(F<=f) one-tail	4.95384E-06	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	70.5
Z	1.83
p	0.0336
R'	19.5

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.811666667	1.14423077
Variance	2.35440833	0.11366538
Observations	3	26
Pooled Variance	0.27964634	
Hypothesized Mean Difference	0	
df	27	
t Stat	2.06991871	
P(T<=t) one-tail	0.02407522	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.04815044	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.811666667	1.14423077
Variance	2.35440833	0.11366538
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.75131668	
P(T<=t) one-tail	0.26541856	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.53083711	
t Critical two-tail	4.30265273	

**Table A-2  
Statistical Comparison of Pond Sediment to Off-Shore Sediment  
NRG-Indian River Generating Station**

**Vanadium**  
mg/kg

Pond	<b>25.5</b>
Pond	<b>82.5</b>
Pond	<b>50.3</b>
OS-01	43.3
OS-02	17.4 B
OS-03	27.8
OS-04	37.6
OS-05	36.1
OS-06	34.2
OS-07	37.2
OS-08	36
OS-09	33.8
OS-10	33.1
OS-11	35.7
OS-12	41.8
OS-13	39.5
OS-14	8.8 B
OS-15	29.7
OS-16	10.6 B
OS-17	4.8 B
OS-18	10.2 B
OS-19	28.1 B
OS-20	25.7
OS-21	24.9
OS-22	29.1
OS-23	4.9 B
OS-24	4.7 B
OS-25	5.2 B
OS-26	9.3 B

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	52.76666667	24.9807692
Variance	816.8133333	175.499215
Observations	3	26
df	2	25
F	4.654227835	
P(F<=f) one-tail	0.019130904	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	68
Z	1.65
p	0.0495
R'	22

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	52.76666667	24.9807692
Variance	816.8133333	175.499215
Observations	3	26
Pooled Variance	223.003965	
Hypothesized Mean Difference	0	
df	27	
t Stat	3.05152153	
P(T<=t) one-tail	0.00253102	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.00506204	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	52.76666667	24.9807692
Variance	816.8133333	175.499215
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	1.66343532	
P(T<=t) one-tail	0.11906351	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.23812703	
t Critical two-tail	4.30265273	

**Table A-2  
Statistical Comparison of Pond Sediment to Off-Shore Sediment  
NRG-Indian River Generating Station**

	<b>Zinc</b> mg/kg
Pond	<b>31.4</b>
Pond	<b>73.1</b>
Pond	<b>118</b>
OS-01	146
OS-02	32.7
OS-03	83
OS-04	105
OS-05	107
OS-06	101
OS-07	104
OS-08	112
OS-09	103
OS-10	95.8
OS-11	87.1
OS-12	85.4
OS-13	101
OS-14	20.5
OS-15	93.2
OS-16	39.7
OS-17	15.6
OS-18	37.4
OS-19	85.8
OS-20	74.6
OS-21	69.5
OS-22	74.3
OS-23	4.7 B
OS-24	11.1
OS-25	11.7
OS-26	21.9

<b>F-Test</b>		
F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	74.16666667	70.1153846
Variance	1875.743333	1548.80775
Observations	3	26
df	2	25
F	1.211088548	
P(F<=f) one-tail	0.314757413	
F Critical one-tail	3.385189962	

<b>Wilcoxon Rank Sum Test</b>	
R	47
Z	0.14
p	0.444
R'	43

<b>t-tests</b>		
t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	74.16666667	70.1153846
Variance	1875.74333	1548.80775
Observations	3	26
Pooled Variance	1573.0252	
Hypothesized Mean Difference	0	
df	27	
t Stat	0.16752242	
P(T<=t) one-tail	0.43410373	
t Critical one-tail	1.70328842	
P(T<=t) two-tail	0.86820745	
t Critical two-tail	2.05183049	

  

t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>
Mean	74.16666667	70.1153846
Variance	1875.74333	1548.80775
Observations	3	26
Hypothesized Mean Difference	0	
df	2	
t Stat	0.15481218	
P(T<=t) one-tail	0.44559066	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.89118133	
t Critical two-tail	4.30265273	

**Table A-3**  
**Summary of Statistical Comparison**  
**of Pond Sediment to Shoreline Sediment<sup>1</sup>**  
**NRG-Indian River Generating Station**

Parameter	Result of t-Test	Result of Wilcoxon Rank Sum Test
Aluminum	Significantly Different	Significantly Different
Antimony	NA - Numerous NDs	Not Significantly Different
Arsenic	Not Significantly Different	Not Significantly Different
Barium	Not Significantly Different	Not Significantly Different
Beryllium	Not Significantly Different	Not Significantly Different
Cadmium	Not Significantly Different	Not Significantly Different
Calcium	Not Significantly Different	Not Significantly Different
Chromium	Not Significantly Different	Not Significantly Different
Cobalt	Not Significantly Different	Not Significantly Different
Copper	Significantly Different	Not Significantly Different
Iron	Not Significantly Different	Not Significantly Different
Lead	Not Significantly Different	Not Significantly Different
Magnesium	Not Significantly Different	Not Significantly Different
Manganese	Not Significantly Different	Not Significantly Different
Mercury	Not Significantly Different	Not Significantly Different
Nickel	Not Significantly Different	Not Significantly Different
Potassium	Not Significantly Different	Not Significantly Different
Selenium	NA - Numerous NDs	Significantly Different
Sodium	Not Significantly Different	Not Significantly Different
Thallium	NA - Numerous NDs	Not Significantly Different
Vanadium	Not Significantly Different	Significantly Different
Zinc	Not Significantly Different	Not Significantly Different

NA - Not applicable due to the high frequency of non-detect results.

<sup>1</sup> "Shoreline" sediment includes data from sediment samples collected immediately adjacent to the shoreline and sediment samples collected "offshore" during the FE (Shaw, 2008).

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Aluminum</b>			<b>Antimony</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	7312.769231	Mean	1.053333	1.165385
Variance	57314800	28484372.1	Variance	0.361033	0.200151
Observations	3	52	Observations	3	52
Pooled Variance	29572312.8		Pooled Variance	0.206222	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	2.55415033		t Stat	-0.415557	
P(T<=t) one-tail	<b>0.00677762</b>		P(T<=t) one-tail	0.339706	
t Critical one-tail	1.67411624		t Critical one-tail	1.674116	
P(T<=t) two-tail	<b>0.01355525</b>		P(T<=t) two-tail	0.679412	
t Critical two-tail	2.00574595		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	7312.769231	Mean	1.053333	1.165385
Variance	57314800	28484372.1	Variance	0.361033	0.200151
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	1.86035972		t Stat	-0.317956	
P(T<=t) one-tail	0.10195397		P(T<=t) one-tail	0.390323	
t Critical one-tail	2.91998558		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.20390794		P(T<=t) two-tail	0.780647	
t Critical two-tail	4.30265273		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances			F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	15560	7312.769231	Mean	1.053333	1.165385
Variance	57314800	28484372.1	Variance	0.361033	0.200151
Observations	3	52	Observations	3	52
df	2	51	df	2	51
F	2.01214897		F	1.803806	
P(F<=f) one-tail	0.14417816		P(F<=f) one-tail	0.175018	
F Critical one-tail	3.17879929		F Critical one-tail	3.178799	

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Arsenic</b>			<b>Barium</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333	21.525	Mean	81.06667	57.92115
Variance	3129.773	820.8149	Variance	2517.213	2019.052
Observations	3	52	Observations	3	52
Pooled Variance	907.9454		Pooled Variance	2037.851	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	1.487198		t Stat	0.863498	
P(T<=t) one-tail	0.071444		P(T<=t) one-tail	0.195877	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	0.142888		P(T<=t) two-tail	0.391754	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333	21.525	Mean	81.06667	57.92115
Variance	3129.773	820.8149	Variance	2517.213	2019.052
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	0.817638		t Stat	0.781168	
P(T<=t) one-tail	0.249738		P(T<=t) one-tail	0.258245	
t Critical one-tail	2.919986		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.499476		P(T<=t) two-tail	0.51649	
t Critical two-tail	4.302653		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances			F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	48.13333	21.525	Mean	81.06667	57.92115
Variance	3129.773	820.8149	Variance	2517.213	2019.052
Observations	3	52	Observations	3	52
df	2	51	df	2	51
F	3.813008		F	1.24673	
P(F<=f) one-tail	0.028624		P(F<=f) one-tail	0.296055	
F Critical one-tail	3.178799		F Critical one-tail	3.178799	

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Beryllium</b>			<b>Cadmium</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333	0.68151	Mean	0.853333	0.179279
Variance	0.804133	0.251836	Variance	0.153033	0.031529
Observations	3	52	Observations	3	52
Pooled Variance	0.272677		Pooled Variance	0.036114	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	2.295773		t Stat	5.9736	
P(T<=t) one-tail	0.012837		P(T<=t) one-tail	9.97E-08	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	0.025673		P(T<=t) two-tail	1.99E-07	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333	0.68151	Mean	0.853333	0.179279
Variance	0.804133	0.251836	Variance	0.153033	0.031529
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	1.362639		t Stat	2.966858	
P(T<=t) one-tail	0.153073		P(T<=t) one-tail	0.048654	
t Critical one-tail	2.919986		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.306146		P(T<=t) two-tail	0.097308	
t Critical two-tail	4.302653		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances					
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	1.393333	0.68151			
Variance	0.804133	0.251836			
Observations	3	52			
df	2	51			
F	3.193086				
P(F<=f) one-tail	0.049369				
F Critical one-tail	3.178799				

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Copper</b>			<b>Iron</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	12.51808	Mean	17453.33	15941.58
Variance	272.29	103.1168	Variance	1.07E+08	1.22E+08
Observations	3	52	Observations	3	52
Pooled Variance	109.5007		Pooled Variance	1.22E+08	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	3.022822		t Stat	0.230889	
P(T<=t) one-tail	0.001926		P(T<=t) one-tail	0.409145	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	0.003853		P(T<=t) two-tail	0.81829	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	12.51808	Mean	17453.33	15941.58
Variance	272.29	103.1168	Variance	1.07E+08	1.22E+08
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	1.950256		t Stat	0.245677	
P(T<=t) one-tail	0.095222		P(T<=t) one-tail	0.414422	
t Critical one-tail	2.919986		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.190444		P(T<=t) two-tail	0.828843	
t Critical two-tail	4.302653		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances			F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	31.3	12.51808	Mean	17453.33	15941.58
Variance	272.29	103.1168	Variance	1.07E+08	1.22E+08
Observations	3	52	Observations	3	52
df	2	51	df	2	51
F	2.640598		F	0.871989	
P(F<=f) one-tail	0.081054		P(F<=f) one-tail	0.575741	
F Critical one-tail	3.178799		F Critical one-tail	0.051345	

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Manganese</b>			<b>Nickel</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	69.92692	Mean	20.3	11.06596
Variance	7703.56	3144.96	Variance	84.07	61.26503
Observations	3	52	Observations	3	52
Pooled Variance	3316.983		Pooled Variance	62.1256	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	0.92034		t Stat	1.973047	
P(T<=t) one-tail	0.180783		P(T<=t) one-tail	0.026858	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	0.361565		P(T<=t) two-tail	0.053715	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	69.92692	Mean	20.3	11.06596
Variance	7703.56	3144.96	Variance	84.07	61.26503
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	0.613902		t Stat	1.708791	
P(T<=t) one-tail	0.300903		P(T<=t) one-tail	0.114807	
t Critical one-tail	2.919986		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.601805		P(T<=t) two-tail	0.229615	
t Critical two-tail	4.302653		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances			F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	101.4	69.92692	Mean	20.3	11.06596
Variance	7703.56	3144.96	Variance	84.07	61.26503
Observations	3	52	Observations	3	52
df	2	51	df	2	51
F	2.449493		F	1.372235	
P(F<=f) one-tail	0.096436		P(F<=f) one-tail	0.262741	
F Critical one-tail	3.178799		F Critical one-tail	3.178799	

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Selenium</b>			<b>Thallium</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	5.466667	1.330577	Mean	1.888333	0.985577
Variance	18.01333	1.031421	Variance	2.009408	0.195131
Observations	3	52	Observations	3	52
Pooled Variance	1.672248		Pooled Variance	0.263594	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	5.386672		t Stat	2.961307	
P(T<=t) one-tail	8.39E-07		P(T<=t) one-tail	0.002288	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	1.68E-06		P(T<=t) two-tail	0.004576	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances			t-Test: Two-Sample Assuming Unequal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	5.466667	1.330577	Mean	1.888333	0.985577
Variance	18.01333	1.031421	Variance	2.009408	0.195131
Observations	3	52	Observations	3	52
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	2		df	2	
t Stat	1.685145		t Stat	1.099978	
P(T<=t) one-tail	0.117001		P(T<=t) one-tail	0.193024	
t Critical one-tail	2.919986		t Critical one-tail	2.919986	
P(T<=t) two-tail	0.234002		P(T<=t) two-tail	0.386048	
t Critical two-tail	4.302653		t Critical two-tail	4.302653	
F-Test Two-Sample for Variances			F-Test Two-Sample for Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	5.466667	1.330577	Mean	1.888333	0.985577
Variance	18.01333	1.031421	Variance	2.009408	0.195131
Observations	3	52	Observations	3	52
df	2	51	df	2	51
F	17.46457		F	10.29774	
P(F<=f) one-tail	1.67E-06		P(F<=f) one-tail	0.000175	
F Critical one-tail	3.178799		F Critical one-tail	3.178799	

**Table A-4**  
**Statistical Comparison of Pond Sediment to Shoreline Sediment**  
**NRG-Indian River Generating Station**

<b>Vanadium</b>			<b>Zinc</b>		
t-Test: Two-Sample Assuming Equal Variances			t-Test: Two-Sample Assuming Equal Variances		
	<i>Variable 1</i>	<i>Variable 2</i>		<i>Variable 1</i>	<i>Variable 2</i>
Mean	52.76667	18.95962	Mean	74.16667	44.78269
Variance	816.8133	170.3868	Variance	1875.743	1586.846
Observations	3	52	Observations	3	52
Pooled Variance	194.7802		Pooled Variance	1597.748	
Hypothesized Mean Difference	0		Hypothesized Mean Difference	0	
df	53		df	53	
t Stat	4.079583		t Stat	1.238048	
P(T<=t) one-tail	<b>7.63E-05</b>		P(T<=t) one-tail	0.110577	
t Critical one-tail	1.674116		t Critical one-tail	1.674116	
P(T<=t) two-tail	<b>0.000153</b>		P(T<=t) two-tail	0.221155	
t Critical two-tail	2.005746		t Critical two-tail	2.005746	
t-Test: Two-Sample Assuming Unequal Variances					
	<i>Variable 1</i>	<i>Variable 2</i>			
Mean	52.76667	18.95962			
Variance	816.8133	170.3868			
Observations	3	52			
Hypothesized Mean Difference	0				
df	2				
t Stat	2.036615				
P(T<=t) one-tail	0.089305				
t Critical one-tail	2.919986				
P(T<=t) two-tail	0.178611				
t Critical two-tail	4.302653				
F-Test Two-Sample for Variances					
	<i>Variable 1</i>	<i>Variable 2</i>			
Mean	52.76667	18.95962			
Variance	816.8133	170.3868			
Observations	3	52			
df	2	51			
F	4.793878				
P(F<=f) one-tail	0.012366				
F Critical one-tail	3.178799				