Supplemental Figure 1

Contour maps of sampling locations

Table of Contents

Bladen County 1........................................................................................................2
Bladen County 2-3.....................................................................................................3
New Hanover 1-4......................................................................................................4
Robeson County 1-3...............................................................................................5
Wayne County 1-2....................................................................................................6
Bladen County (site 1). See Supplemental Table 1 for site locations and sampling times.
Bladen County (sites 2-3). See Supplemental Table 1 for site locations and sampling times.
New Hanover (sites 1-4). See Supplemental Table 1 for site locations and sampling times.
Robeson County (sites 1-3). See Supplemental Table 1 for site locations and sampling times.
Wayne County (sites 1-2). See Supplemental Table 1 for site locations and sampling times.
Supplemental Figure 2
Cook’s Outlier Distance Plots: Metal~Aluminum

Table of Contents
Antimony.................................................................................................................... 1
Arsenic ....................................................................................................................... 3
Barium......................................................................................................................... 5
Beryllium.................................................................................................................... 7
Cadmium.................................................................................................................... 9
Chromium .................................................................................................................. 11
Cobalt ....................................................................................................................... 13
Copper ...................................................................................................................... 15
Iron............................................................................................................................ 17
Lead........................................................................................................................... 19
Lithium...................................................................................................................... 21
Manganese................................................................................................................ 23
Nickel ....................................................................................................................... 25
Selenium................................................................................................................... 27
Silver......................................................................................................................... 29
Strontium.................................................................................................................. 31
Zinc.......................................................................................................................... 33
Magnesium.............................................................................................................. 35
Tin ............................................................................................................................. 37
Vanadium.................................................................................................................. 39
Mercury...................................................................................................................... 41
Cooks Outlier Plot for Beryllium~Aluminum

Supplemental Figure 2: Page 8
Plot for Chromium~Aluminum

Supplemental Figure 2: Page 13
Plot for Cobalt~Aluminum

Supplemental Figure 2: Page 15
Cooks Outlier Plot for Lead~Aluminum

Supplemental Figure 2: Page 20
Plot for Silver~Aluminum
Cooks Outlier Plot for Mercury~Aluminum
Supplemental Figure 2: Page 43

Plot for Mercury~Aluminum

- Outlier

Mercury vs. Aluminum

- Green circles (0)
- Orange dots (1)

Supplemental Figure 2: Page 43
# Supplemental Figure 3
Cook’s Outlier Distance Plots: Metal~Iron

## Table of Contents

- Aluminum .................................................................................................................. 1
- Antimony .................................................................................................................... 3
- Arsenic ....................................................................................................................... 5
- Barium ........................................................................................................................ 7
- Beryllium .................................................................................................................... 9
- Cadmium .................................................................................................................. 11
- Chromium ................................................................................................................ 13
- Cobalt ....................................................................................................................... 15
- Copper ...................................................................................................................... 17
- Lead .......................................................................................................................... 19
- Lithium ..................................................................................................................... 21
- Manganese ............................................................................................................... 23
- Nickel ....................................................................................................................... 25
- Selenium ................................................................................................................... 27
- Silver ........................................................................................................................ 29
- Strontium .................................................................................................................. 31
- Zinc .......................................................................................................................... 33
- Magnesium ............................................................................................................... 35
- Tin ............................................................................................................................ 37
- Vanadium .................................................................................................................. 39
- Mercury .................................................................................................................... 41
Supplemental Figure 3: Plot for Aluminum~Iron

Aluminum vs. Iron scatter plot with a linear trend line and shaded confidence interval. The outlier is indicated near the top right corner of the plot.
Cooks Outlier Plot for Arsenic~Iron

Supplemental Figure 3: Page 6
Supplemental Figure 3: Plot for Arsenic~Iron

- **Iron** values: 5000, 7500, 10000, 12500
- **Arsenic** values: 0, 1, NA

Outlier is indicated by the number 8.
Cooks Outlier Plot for Beryllium~Iron

Supplemental Figure 3: Page 10
Cooks Outlier Plot for Cobalt~Iron

Supplemental Figure 3: Page 16
Supplemental Figure 3: Plot for Cobalt~Iron

- Cobalt on the y-axis
- Iron on the x-axis
- Data points indicated with different symbols and colors
- Outlier points marked
- Linear trend line with shaded confidence interval

Legend:
- 0
- 1
- NA

Data points at:
- Iron 5000, Cobalt 0.0
- Iron 7500, Cobalt 1.5
Cooks Outlier Plot for Copper-Iron

Supplemental Figure 3: Page 18
Cooks Outlier Plot for Selenium~Iron

Supplemental Figure 3: Page 28
Cooks Outlier Plot for Zinc~Iron

Supplemental Figure 3: Page 34
Cooks Outlier Plot for Tin~Iron

Supplemental Figure 3: Page 38
Supplemental Figure 3: Page 42

Cooks Outlier Plot for Mercury~Iron
Supplemental Tables
Environmental impacts of Hurricane Florence flooding in Eastern North Carolina: Temporal analysis of contaminant distribution and potential human health risks

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Table of Content:
ST1 Overview of sampling locations, dates and analysis type
ST2 Sample Locations and Dates
ST3 Raw Data for PAH
ST4 Raw data for pesticides, industrial chemicals and PCB
ST5 Raw data for metals.
ST6 QC Data for PAH and Organics
ST7 QC Data for Metals
ST8 Cook's Distance results for each sample and metal.
ST9 Pyrogenic Index (PI) and PAH Source Apportionment Ratios
ST10 Non-cancer and cancer risk values for organic compounds
ST11 PAH BaP TEF, non-cancer and cancer risk values for organic compounds
ST12 Enrichment Factors for metals
ST13 Metals Normalized to Al
ST14 Coal Ash, Superfund and Toxic Release Inventory Locations
### Supplemental Table 1. Overview of sampling locations, dates and analysis type.

| County (North Carolina, USA) | Sampling Dates | Organic compound samples | Metal samples |
|------------------------------|----------------|--------------------------|---------------|
| Bladen [BL]                  | Sep 19 2018    | 2                        | 2             |
|                              | Jan 29 2019    | 2                        | 2             |
|                              | May 9 2019     | 2                        | 2             |
| New Hanover [NH]            | Sep 22 2018    | 4                        | 4             |
|                              | Jan 30 2019    | 2                        | 2             |
|                              | May 10 2019    | 2                        | 2             |
| Robeson [RO]                | Sep 21 2018    | 3                        | 3             |
|                              | Jan 29 2019    | 3                        | 3             |
|                              | May 9 2019     | 3                        | 3             |
| Wayne [WA]                  | Sep 23 2018    | 2                        | 1             |
|                              | Jan 30 2019    | 2                        | 2             |
|                              | May 10 2019    | 1                        | 1             |
| **Total Samples**           |                | **28**                   | **27**        |
| Sample Location Name | Sampling Date       | Time (EST/US) | Sample ID   | Sample Type |
|----------------------|---------------------|---------------|-------------|-------------|
| Bladen County 1      | September 19, 2018  | 19:26         | BL1 [Sep-18]| Soil        |
| Bladen County 1      | September 19, 2018  | 19:25         | BL1 [Sep-18]| Soil        |
| Bladen County 2      | September 19, 2018  | 17:19         | BL2 [Sep-18]| Soil        |
| Bladen County 2      | January 29, 2019    | 15:41         | BL2 [Jan-19]| Soil        |
| Bladen County 2      | May 9, 2019         | 16:35         | BL2 [May-19]| Soil        |
| Bladen County 2      | September 19, 2018  | 17:19         | BL2 [Sep-18]| Soil        |
| Bladen County 2      | January 29, 2019    | 15:41         | BL2 [Jan-19]| Soil        |
| Bladen County 3      | January 29, 2019    | 15:41         | BL3 [Jan-19]| Soil        |
| Bladen County 3      | May 9, 2019         | 16:35         | BL3 [May-19]| Soil        |
| Bladen County 3      | January 29, 2019    | 15:41         | BL3 [Jan-19]| Soil        |
| Bladen County 3      | May 9, 2019         | 16:35         | BL3 [May-19]| Soil        |
| Bladen County 3      | January 29, 2019    | 15:41         | BL3 [Jan-19]| Soil        |
| New Hanover 1        | September 22, 2018  | 15:07         | NH1 [Sep-18]| Soil        |
| New Hanover 1        | January 30, 2019    | 11:45         | NH1 [Jan-19]| Soil        |
| New Hanover 1        | May 10, 2019        | 12:40         | NH1 [May-19]| Soil        |
| New Hanover 1        | September 22, 2018  | 15:06         | NH1 [Sep-18]| Soil        |
| New Hanover 1        | January 30, 2019    | 11:45         | NH1 [Jan-19]| Soil        |
| New Hanover 1        | May 10, 2019        | 12:40         | NH1 [May-19]| Soil        |
| New Hanover 2        | September 22, 2018  | 15:31         | NH2 [Sep-18]| Soil        |
| New Hanover 2        | September 22, 2018  | 15:30         | NH2 [Sep-18]| Soil        |
| New Hanover 3        | September 22, 2018  | 15:50         | NH3 [Sep-18]| Soil        |
| New Hanover 3        | September 22, 2018  | 15:49         | NH3 [Sep-18]| Soil        |
| New Hanover 4        | September 22, 2018  | 16:32         | NH4 [Sep-18]| Soil        |
| New Hanover 4        | January 30, 2019    | 11:20         | NH4 [Jan-19]| Soil        |
| New Hanover 4        | May 10, 2019        | 12:10         | NH4 [May-19]| Soil        |
| New Hanover 4        | September 22, 2018  | 16:31         | NH4 [Sep-18]| Soil        |
| New Hanover 4        | January 30, 2019    | 11:20         | NH4 [Jan-19]| Soil        |
| Robeson County 1     | September 21, 2018  | 12:27         | RO1 [Sep-18]| Soil        |
| Robeson County 1     | January 29, 2019    | 12:18         | RO1 [Jan-19]| Soil        |
| Robeson County 1     | May 9, 2019         | 14:20         | RO1 [May-19]| Soil        |
| Robeson County 1     | September 21, 2018  | 12:25         | RO1 [Sep-18]| Soil        |
| Robeson County 1     | January 29, 2019    | 12:18         | RO1 [Jan-19]| Soil        |
| Robeson County 1     | May 9, 2019         | 14:20         | RO1 [May-19]| Soil        |
| Robeson County 2     | September 21, 2018  | 12:51         | RO2 [Sep-18]| Soil        |
| Robeson County 2     | January 29, 2019    | 12:18         | RO2 [Jan-19]| Soil        |
| Robeson County 2     | May 9, 2019         | 14:20         | RO2 [May-19]| Soil        |
| Robeson County 2     | September 21, 2018  | 12:49         | RO2 [Sep-18]| Soil        |
| Robeson County 2     | January 29, 2019    | 12:18         | RO2 [Jan-19]| Soil        |
| Robeson County 2     | May 9, 2019         | 14:20         | RO2 [May-19]| Soil        |
| Robeson County 3     | September 21, 2018  | 13:04         | RO3 [Sep-18]| Soil        |
| Robeson County 3     | January 29, 2019    | 12:20         | RO3 [Jan-19]| Soil        |
| Robeson County 3     | May 9, 2019         | 14:20         | RO3 [May-19]| Soil        |
| Robeson County 3     | September 21, 2018  | 13:02         | RO3 [Sep-18]| Soil        |
| Robeson County 3     | January 29, 2019    | 12:20         | RO3 [Jan-19]| Soil        |
| Robeson County 3     | May 9, 2019         | 14:20         | RO3 [May-19]| Soil        |
| Wayne County 1       | September 23, 2018  | 11:00         | WA1 [Sep-18]| Soil        |
| Wayne County 1       | January 30, 2019    | 14:10         | WA1 [Jan-19]| Soil        |
| Wayne County 1   | May 10, 2019   | 14:57 WA1 [May-19] Soil |
|-----------------|----------------|------------------------|
| Wayne County 1  | September 23, 2018 | 11:01 WA1 [Sep-18] Soil |
| Wayne County 1  | January 30, 2019 | 14:10 WA1 [Jan-19] Soil |
| Wayne County 1  | May 10, 2019   | 14:57 WA1 [May-19] Soil |
| Wayne County 2  | September 23, 2018 | 11:22 WA2 [Sep-18] Soil |
| Wayne County 2  | January 30, 2019 | 14:30 WA2 [Jan-19] Soil |
| Wayne County 2  | January 30, 2019 | 14:30 WA2 [Jan-19] Soil |
| Analyte             | Latitude  | Longitude  |
|---------------------|-----------|------------|
| Organic compounds   | 34.745589 | -78.802357 |
| Metals              | 34.745589 | -78.802357 |
| Metals              | 34.832628 | -78.825824 |
| Organic compounds   | 34.832628 | -78.825824 |
| Organic compounds   | 34.832628 | -78.825824 |
| Organic compounds   | 34.832628 | -78.825824 |
| Organic compounds   | 34.832628 | -78.825824 |
| Organic compounds   | 34.832628 | -78.825824 |
| Organic compounds   | 34.83271  | -78.82598  |
| Organic compounds   | 34.83271  | -78.82598  |
| Metals              | 34.83271  | -78.82598  |
| Metals              | 34.83271  | -78.82598  |
| Organic compounds   | 34.2167342| -77.9462469|
| Organic compounds   | 34.216403 | -77.946445 |
| Organic compounds   | 34.216403 | -77.946445 |
| Metals              | 34.2167342| -77.9462469|
| Metals              | 34.216403 | -77.946445 |
| Metals              | 34.216403 | -77.946445 |
| Organic compounds   | 34.2050547| -77.951617 |
| Metals              | 34.2050547| -77.951617 |
| Organic compounds   | 34.1906059| -77.949146 |
| Metals              | 34.1906059| -77.949146 |
| Organic compounds   | 34.1722507| -77.9486813|
| Organic compounds   | 34.1722507| -77.9486813|
| Organic compounds   | 34.1722507| -77.9486813|
| Metals              | 34.1722507| -77.9486813|
| Metals              | 34.1722507| -77.9486813|
| Organic compounds   | 34.7201805| -79.2123964|
| Organic compounds   | 34.7201805| -79.2123964|
| Organic compounds   | 34.7201805| -79.2123964|
| Metals              | 34.7201805| -79.2123964|
| Metals              | 34.7201805| -79.2123964|
| Organic compounds   | 34.723014 | -79.213111 |
| Organic compounds   | 34.723014 | -79.213111 |
| Organic compounds   | 34.723014 | -79.213111 |
| Metals              | 34.723014 | -79.213111 |
| Metals              | 34.723014 | -79.213111 |
| Organic compounds   | 34.723223 | -79.211834 |
| Organic compounds   | 34.723223 | -79.211834 |
| Organic compounds   | 34.723223 | -79.211834 |
| Metals              | 34.723223 | -79.211834 |
| Metals              | 34.723223 | -79.211834 |
| Organic compounds   | 35.3604179| -78.078177 |
| Organic compounds   | 35.3604179| -78.078177 |
| Category            | Value1       | Value2       |
|---------------------|--------------|--------------|
| Organic compounds   | 35.3604179   | -78.078177   |
| Metals              | 35.3604179   | -78.078177   |
| Metals              | 35.3604179   | -78.078177   |
| Organic compounds   | 35.3694094   | -78.0583703  |
| Organic compounds   | 35.3694094   | -78.0583703  |
| Metals              | 35.3694094   | -78.0583703  |
### Supplemental Table 3: Raw data for PAH.

| Sample Location ID | Date     | Time  | Dry Weight (g) | Analysis Date | Sample Type | Analyte | Latitude  | Longitude |
|--------------------|----------|-------|----------------|---------------|-------------|---------|-----------|-----------|
| Bladen County 1    | 9/19/2018| 19:26 | 15             | 3/22/2019     | Soil        | PAH     | 34.74559  | -78.8024  |
| Bladen County 2    | 9/19/2018| 17:19 | 15             | 3/22/2019     | Soil        | PAH     | 34.83263  | -78.8258  |
| Robeson County 1   | 9/21/2018| 12:27 | 15             | 3/22/2019     | Soil        | PAH     | 34.72018  | -79.2124  |
| Robeson County 2   | 9/21/2018| 12:51 | 15             | 3/22/2019     | Soil        | PAH     | 34.72301  | -79.2131  |
| New Hanover 1      | 9/22/2018| 15:07 | 15             | 3/22/2019     | Soil        | PAH     | 34.20505  | -77.9516  |
| New Hanover 2      | 9/22/2018| 15:31 | 15             | 3/22/2019     | Soil        | PAH     | 34.19061  | -77.9491  |
| New Hanover 3      | 9/22/2018| 15:50 | 15             | 3/22/2019     | Soil        | PAH     | 34.17225  | -77.9487  |
| New Hanover 4      | 9/22/2018| 16:32 | 15             | 3/22/2019     | Soil        | PAH     | 34.17225  | -77.9487  |
| Wayne County 1     | 9/23/2018| 11:00 | 15             | 3/22/2019     | Soil        | PAH     | 35.36042  | -78.0782  |
| Wayne County 2     | 9/23/2018| 11:22 | 15             | 3/22/2019     | Soil        | PAH     | 35.36941  | -78.0584  |
| Robeson County 1   | 1/29/2019| 12:18 | 15             | 3/22/2019     | Soil        | PAH     | 34.72301  | -79.2124  |
| Robeson County 2   | 1/29/2019| 12:20 | 15             | 3/22/2019     | Soil        | PAH     | 34.72322  | -79.2118  |
| Bladen County 1    | 1/29/2019| 15:41 | 15             | 3/22/2019     | Soil        | PAH     | 34.83263  | -78.8258  |
| Bladen County 2    | 1/29/2019| 15:41 | 15             | 3/22/2019     | Soil        | PAH     | 34.83263  | -78.8258  |
| New Hanover 1      | 1/30/2019| 11:20 | 15             | 3/22/2019     | Soil        | PAH     | 34.17225  | -77.9487  |
| New Hanover 2      | 1/30/2019| 11:45 | 15             | 3/22/2019     | Soil        | PAH     | 34.2164   | -77.9464  |
| Wayne County 1     | 1/30/2019| 14:10 | 15             | 3/22/2019     | Soil        | PAH     | 35.36042  | -78.0782  |
| Wayne County 2     | 1/30/2019| 14:30 | 15             | 3/22/2019     | Soil        | PAH     | 35.36941  | -78.0584  |
| Robeson County 1   | 5/9/2019  | 14:20 | 10             | 7/31/2019     | Soil        | PAH     | 34.72018  | -79.2124  |
| Robeson County 2   | 5/9/2019  | 14:20 | 10             | 7/31/2019     | Soil        | PAH     | 34.72301  | -79.2131  |
| Bladen County 1    | 5/9/2019  | 14:20 | 10             | 7/31/2019     | Soil        | PAH     | 34.72322  | -79.2118  |
| Bladen County 2    | 5/9/2019  | 16:35 | 10             | 7/31/2019     | Soil        | PAH     | 34.83263  | -78.8258  |
| New Hanover 1      | 5/10/2019 | 12:10 | 10             | 7/31/2019     | Soil        | PAH     | 34.17225  | -77.9487  |
| New Hanover 2      | 5/10/2019 | 12:40 | 10             | 7/31/2019     | Soil        | PAH     | 34.2164   | -77.9464  |
| Wayne County 1     | 5/10/2019 | 14:57 | 10             | 7/31/2019     | Soil        | PAH     | 35.36042  | -78.0782  |

* Values are expressed in unit of ng/g; LLOQ, lower limit of quantification, defined by the lowest quantifiable point in calibration curve.

LLOQ (ng/g)
- Sep-18: 34.17225
- Jan-19: 34.72301
- May-19: 34.72322

LLOQ (ng/g): 34.17225, 34.72301, 34.72322

- Values are expressed in unit of ng/g.
- LLOQ, lower limit of quantification, defined by the lowest quantifiable point in calibration curve.
| C10H18 | C10H18 | C10H18 | C10H18 | C10H8 | C10H8 | C10H8 | C10H8 | C10H8 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 91-17-8 | 91-17-8 | 91-17-8 | 91-17-8 | 91-20-3 | 91-20-3 | 91-20-3 | 91-20-3 | 91-20-3 |

**cis/trans** DC1-Decalin C2-Decalin C3-Decalin C4-Decalin Naphthalene C1-Naphthal C2-Naphthal C3-Naphthal

| U | U | U | U | J | U | U | U |
|---|---|---|---|---|---|---|---|
| U | U | U | U | U | U | U | U |
| U | U | U | U | 1.65 | 1.204 | 1.458 | 3.037 |
| U | U | U | U | U | U | U | U |
| U | U | U | U | U | J | J | U | U |
| U | U | U | U | 17.391 | J | 29.122 | 53.401 |
| U | U | U | U | 9.339 | J | 14.466 | 24.651 |
| U | U | U | U | 7.554 | 12.876 | 17.398 | 15.754 |
| U | U | U | U | 0.598 | J | U | U |
| U | U | U | U | 13.655 | 18.408 | 36.056 | 48.467 |
| U | U | U | U | U | J | U | U | U |
| U | U | U | U | 1.134 | 0.799 | 1.488 | J |
| U | U | U | U | J | J | U | U |
| U | U | U | U | 0.433 | J | U | U |
| U | U | U | U | U | U | U | U | U |
| U | U | U | U | U | U | U | U | U |
| U | U | U | U | 26.896 | J | 49.583 | U |
| U | U | U | U | 2.14 | 2.614 | 6.198 | 7.807 |
| U | U | U | U | U | J | J | U | U |

NA | NA | NA | NA | NA | 109.52 | 8.31 | 3.25 | 1.16 |
NA | NA | NA | NA | NA | 95.13 | 2.03 | 0.93 | J |
NA | NA | NA | NA | NA | 100.54 | 1.62 | 0.84 | J |
NA | NA | NA | NA | NA | 55.39 | 1.2 | 0.68 | J |
NA | NA | NA | NA | NA | 131.8 | 4.07 | 2.98 | 1.29 |
NA | NA | NA | NA | NA | 40.52 | 4.01 | 2.6 | 0.9 |
NA | NA | NA | NA | NA | 115.13 | 78.07 | 45.82 | 35.45 |
NA | NA | NA | NA | NA | 44.05 | 8.57 | 23.32 | 28.69 |

| 0.132 | 0.263 | 0.263 | 0.263 | 0.263 | 0.342 | 1.03 | 0.684 | 0.684 |
| 0.132 | 0.263 | 0.263 | 0.263 | 0.263 | 0.342 | 1.03 | 0.684 | 0.684 |

1 1 1 1 1 1 1 1 1

Values are expressed in unit of ng/g; LLOQ, lower limit of quantification, defined by the lowest quantifiable point in calibration curve; U, undetected, J, below limits of quantification, NA, not available.
| C10H8 | C8H6S | C8H6S | C8H6S | C8H6S | C12H10 | C12H8 | C12H8 |
|-------|-------|-------|-------|-------|--------|-------|-------|
| 91-20-3 | 95-15-8 | 95-15-8 | 95-15-8 | 95-15-8 | 92-52-4 | 208-96-8 | 208-96-8 |

C4-Naphth BenzothiophenC1-BenzothiC2-BenzothiC3-BenzothiC4-Benzothi Biphenyl Acenaphth Acenaphth

| C4-Naphth BenzothiophenC1-BenzothiC2-BenzothiC3-BenzothiC4-Benzothi Biphenyl Acenaphth Acenaphth |
|---|---|---|---|---|---|---|
| U | U | U | U | U | U | U | U | 1.592 | 1.696 |
| U | U | U | U | U | U | U | U | 0.853 | 2.284 | 0.293 |
| U | U | U | U | U | U | J | 0.436 | U |
| U | U | U | U | U | U | J | 0.411 | U |
| U | U | U | U | U | U | J | 29.047 | 18.16 |
| U | U | U | U | U | U | J | 41.649 | 3.971 |
| 10.329 | 0.529 | U | U | U | U | U | 2.233 | 13.903 | 2.161 |
| U | U | U | U | U | U | J | 1.689 | 0.975 |
| 41.227 | U | U | U | U | U | 11.514 | 86.283 | 3.998 |
| U | U | U | U | U | U | U | 0.24 | U |
| J | J | J | J | J | 0.394 | 1.689 | 0.331 |
| U | U | U | U | U | U | J | 0.205 | U |
| U | U | U | U | U | U | J | 0.507 | 2.496 |
| U | U | U | U | U | U | U | U | U |
| U | U | U | U | U | U | 0.176 | U |
| U | U | U | U | U | U | 3.869 | 2.143 |
| U | U | U | U | U | U | 72.731 | 14.865 |
| U | U | U | U | U | U | 1.093 | 6.232 | 0.372 |
| U | 18.215 | U | U | U | U | U | U | 0.54 | U |
| J | NA | NA | NA | NA | NA | 0.98 | 0.54 | U |
| U | NA | NA | NA | NA | NA | 0.59 | 1.52 | U |
| J | NA | NA | NA | NA | NA | 0.36 | 0.52 | U |
| U | NA | NA | NA | NA | NA | J | 0.35 | U |
| U | NA | NA | NA | NA | NA | 0.91 | 1.02 | J |
| U | NA | NA | NA | NA | NA | 1.55 | 8.53 | 1.45 |
| 6.83 | NA | NA | NA | NA | NA | 14.66 | 59.74 | 21.37 |
| 11.3 | NA | NA | NA | NA | NA | 0.97 | 2.94 | 0.61 |
| 0.684 | 0.09 | 0.18 | 0.18 | 0.18 | 0.18 | 0.294 | 0.103 | 0.041 |
| 0.684 | 0.09 | 0.18 | 0.18 | 0.18 | 0.18 | 0.294 | 0.103 | 0.041 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dibenzo(fur| Fluorene | C1-Fluorenes | C2-Fluorenes | C3-Fluorenes | Carbazole | Phenanthrene | Anthracene | C1-Phenanthrenes/Anthracenes |
|----------|----------|--------------|--------------|--------------|-----------|-------------|-----------|-----------------------------|
| **J**    | 2.129    | U            | U            | U            | 9.088     | 6.135       | 69.017    | 19.815                      |
| U        | 0.709    | 0.326        | U            | U            | 1.718     | 3.027       | 10.298    | 6.753                       |
|          | 0.0207   | 0.345        | U            | U            | 0.644     | 1.383       | 5.679     | 3.919                       |
|          | 15.235   | 19.334       | U            | U            | 57.718    | 84.32       | 424.486   | 157.847                     |
|          | 5.449    | 3.432        | U            | U            | 11.918    | 55.903      | 77.769    | 63.431                     |
|          | 5.078    | 1.924        | 1.334        | 7.503        | 11.417    | 9.339       | 26.187    | 58.567                     |
|          | 0.45     | 0.707        | U            | U            | 2.117     | 2.974       | 11.221    | 5.258                       |
|          | 6.945    | 3.71         | U            | U            | 1.877     | 139.09      | 54.893    | 65.297                     |
| U        | 0.395    | 0.329        | U            | U            | 0.275     | 0.365       | 2.001     | 0.78                        |
|          | 0.659    | 3.199        | 1.836        | 1.945        | 7.923     | 13.43       | 58.606    | 21.486                     |
| U        | 1.396    | 2.113        | U            | U            | 9.103     | 7.89        | 57.482    | 16.15                       |
|          | 16.398   | 13.404       | U            | U            | 53.343    | 135.746     | 320.534   | 132.232                    |
|          | 1.269    | 1.113        | 1.698        | 4.93         | 0.373     | 11.04       | 15.709    | 10.802                     |
| U        | NA       | U            | U            | U            | 1.203     | 3.683       | 3.028     |                            |
| NA       | U        | U            | U            | U            | NA        | 4.37        | 1         | 3.99                       |
| NA       | U        | U            | U            | U            | NA        | 2.95        | 1.71       | 3.05                       |
| NA       | U        | J            | J            | U            | NA        | 2.23        | 0.85       | 2.2                        |
| NA       | U        | U            | U            | U            | NA        | 1.16        | 0.61       | 1.19                       |
| NA       | U        | J            | J            | 1.54 J       | NA        | 4.44        | 1.53       | 4.1                        |
| NA       | U        | U            | U            | U            | NA        | 56.65       | 17.83      | 25.84                      |
| NA       | 16.17    | U            | U            | U            | NA        | 476.37      | 188.69    | 194.34                     |
|          | NA       | 3.01         | 12.44        | 20.65        | 21.25     | NA          | 128.99    | 9.68                       |
|          | 0.204    | 0.183        | 0.367        | 0.367        | 0.367     | 0.15        | 0.208     | 0.115                      |
|          | 0.204    | 0.183        | 0.367        | 0.367        | 0.367     | 0.15        | 0.208     | 0.115                      |
|          | 1        | 1            | 1            | 1            | 1         | 1           | 1         | 1                           |
|    | C14H10 | C14H10 | C14H10 | C12H8S | C12H8S | C12H8S | C12H8S | C12H8S | C16H10 | 85-01-8 | 85-01-8 | 85-01-8 | 132-65-0 | 132-65-0 | 132-65-0 | 132-65-0 | 206-44-0 | C2-Phenan | C3-Phenan | C4-Phenan | DibenzothiopheneC1-DibenzothiopheneC2-DibenzothiopheneC3-DibenzothiopheneC4-DibenzothiopheneFluoranthene |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|    | 18.415 | 15.84  | 14.774 | 2.473  | 1.722  | 3.472  | U      | U      | U      | 258.249 |
|    | 4.945  | 6.105  | 6.401  | U      | U      | U      | U      | 0.574  |
|    | 21.172 | 27.912 | 61.934 | 0.487  | 0.64   | 2.012  | U      | U      | 31.452  |
|    | 4.507  | 6.43   | 11.719 | U      | U      | U      | U      | 0.906  |
|    | 8.306  | 9.401  | 10.93  | 0.231  | 0.344  | 1.129  | U      | U      | 23.387  |
|    | 116.745| 69.143 | 46.245 | 17.563 | 11.517 | 11.777 | U      | U      | 1250.582|
|    | 60.824 | 38.508 | 25.591 | 3.701  | 4.974  | 7.944  | U      | U      | 373.163 |
|    | 41.933 | 25.682 | 11.836 | 3.131  | 3.531  | 6.335  | U      | 3.304  | 135.92  |
|    | 9.709  | 12.8   | 10.176 | 0.503  | 0.632  | 2.166  | U      | 3.513  | 37.214  |
|    | 74.483 | 57.561 | 41.068 | 2.744  | 3.89   | 8.489  | U      | U      | 252.402 |
| U  | U      | U      | U      | U      | U      | U      | U      | 6.957  |
| U  | 11.233 | U      | U      | 0.316  | 0.411  | 1.316  | U      | U      | 24.573  |
| U  | 11.099 | 13.971 | 19.293 | U      | U      | 1.596  | U      | U      | 1.835   |
| U  | 17.411 | 11.444 | 11.673 | 2.16   | 1.26   | 1.631  | U      | U      | 153.735 |
| U  | 3.769  | 5.65   | 3.83   | U      | U      | 0.807  | U      | U      | 0.371   |
| U  | 12.613 | 12.927 | 24.248 | U      | U      | 1.172  | U      | U      | 1.057   |
| U  | 19.722 | 17.771 | 15.534 | 2.437  | 1.359  | 3.006  | U      | U      | 177.302 |
| U  | 120.229| 80.718 | 56.339 | 13.602 | 9.97   | 14.808 | U      | 27.328 | 1003.686|
| U  | 12.594 | 20.195 | 34.199 | 0.639  | 0.738  | 1.757  | U      | U      | 56.02   |
| U  | 11.118 | 17.139 | 13.886 | U      | U      | U      | U      | U      | 18.308  |
| U  | 1.1 J  | 2.45   | U      | U      | NA     | NA     | NA     | 10.7   |
| U  | 3.82   | 3.02   | U      | U      | U      | NA     | NA     | 10.31  |
| U  | 2.04   | 1.65   | U      | U      | U      | NA     | NA     | 7.02   |
| U  | 1.31 J | U      | U      | U      | U      | NA     | NA     | 4.04   |
| U  | 6.58   | 2.37   | 1.71 J | U      | J      | NA     | NA     | 9.21   |
| U  | 15.45 U | 3.84  | 2.08   | U      | NA     | NA     | NA     | 310.62 |
| U  | 122.92 | 55.75  | 23.04  | U      | U      | NA     | NA     | 1487.51|
| U  | 217.07 | 72.79  | 15.48  | 37.66  | 159.54 | 226.24 | NA     | 45.34  |
|    | 0.285  | 0.285  | 0.285  | 0.116  | 0.064  | 0.232  | 0.232  | 0.232  | 0.333 |
|    | 0.285  | 0.285  | 0.285  | 0.116  | 0.064  | 0.232  | 0.232  | 0.232  | 0.333 |
|    | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
|       | C16H10 | C16H10 | C16H10 | C16H10 | C16H10S | C16H10S | C16H10S | C16H10S |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|
| 129-00-0 | 58426-99-9 | 58426-99-9 | 58426-99-9 | 58426-99-9 | 58426-99-9 |
| Pyrene | C1-Fluoranthenes/Pyrenes | C2-Fluoranthenes/Pyrenes | C3-Fluoranthenes/Pyrenes | C4-Fluoranthenes/Pyrenes | Naphthobenzothiophene | C1-Naphthobenzothiophenes | C2-Naphthobenzothiophenes | C3-Naphthobenzothiophenes |
|       | 199.451 | 56.214 | 48.664 | 26.094 | 23.139 | 40.176 | 24.59 | 45.87 | 67.049 |
|       | 1.451 | U | U | U | 1.138 | 0.752 | 0.526 | U | U |
|       | 24.052 | 8.108 | 7.829 | 3.75 | 3.406 | 17.788 | 6.146 | 3.713 | 2.554 |
|       | 1.323 | 1.006 | 0.997 | 0.608 | U | U | U | U | U |
|       | 19.759 | 8.147 | 6.067 | 2.039 | 1.081 | 5.558 | 1.851 | 1.309 | 0.728 |
|       | 1015.135 | 302.416 | 299.36 | 109.923 | 64.999 | 174.881 | 68.104 | 70.872 | 89.373 |
|       | 296.22 | 89.03 | 106.131 | 43.929 | 18.367 | 55.152 | 25.932 | 20.749 | 14.98 |
|       | 118.563 | 48.521 | 63.293 | 39.976 | 23.818 | 25.11 | 23.045 | 25.513 | 24.439 |
|       | 34.2 | 10.007 | 12.793 | 5.299 | 3.667 | 7.057 | 3.673 | 3.889 | 3.852 |
|       | 176.124 | 104.907 | 104.907 | 60.119 | 28.696 | 50.999 | 38.319 | 21.902 | 20.994 |
|       | 5.431 | 1.878 | 1.741 | 0.951 | 0.982 | 1.341 | 1.14 | 2.041 | 2.768 |
|       | 19.249 | 6.331 | 6.084 | 2.92 | 2.615 | U | U | U | U |
|       | 3.529 | 1.623 | 1.554 | 0.772 | J | 5.948 | 1.927 | 1.68 | 1.337 |
|       | 123.223 | 54.338 | 24.167 | 7.33 | U | 18.687 | 5.419 | 2.407 | 1.325 |
|       | 1.476 | U | U | U | U | U | U | U | U |
|       | 2.605 | 1.463 | 0.98 | 0.538 | U | 4.299 | 1.53 | 0.604 | U |
|       | 153.697 | 46.28 | 55.004 | 24.431 | 18.263 | 31.827 | 15.465 | 21.712 | 26.704 |
|       | 831.484 | 286.487 | 310.905 | 149.221 | 98.797 | 167.078 | 87.009 | 107.776 | 175.812 |
|       | 32.388 | 18.744 | 17.91 | 5.573 | 6.387 | 10.558 | 5.463 | 4.607 | 3.456 |
|       | 21.775 | 7.58 | 11.399 | 9.904 | 8.959 | 5.342 | 9.403 | 23.742 | 32.464 |
|       | 9.58 | 3.61 | J | J | NA | NA | NA | NA | NA |
|       | 10.57 | 3.79 | 1.58 | U | NA | NA | NA | NA | NA |
|       | 6.02 | 2.26 | U | U | NA | NA | NA | NA | NA |
|       | 3.71 | 1.59 | U | U | NA | NA | NA | NA | NA |
|       | 8.36 | 3.83 | 2.96 | U | NA | NA | NA | NA | NA |
|       | 269.55 | 59.08 | 41.65 | 22.83 | NA | NA | NA | NA | NA |
|       | 1221.74 | 347.62 | 201.45 | 91.19 | NA | NA | NA | NA | NA |
|       | 76.43 | 36.42 | 17.93 | 7.07 | NA | NA | NA | NA | NA |
|       | 0.136 | 0.469 | 0.469 | 0.469 | 0.469 | 0.128 | 0.256 | 0.256 | 0.256 |
|       | 0.136 | 0.469 | 0.469 | 0.469 | 0.469 | 0.128 | 0.256 | 0.256 | 0.256 |
|       | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Compound                  | 39.23 | 99.055 | 171.104 | 53.483 | 37.855 | 32.652 | U   | 157.166 | 134.237 |
|---------------------------|-------|--------|---------|--------|--------|--------|     |----------|----------|
| U                        | 0.517 | 0.481  | U       | U      | U      | U      | U   |          |          |
| U                         | 9.757 | 21.958 | 8.215   | 11.711 | 6.576  | U      | 24.822 | 20.655  |
| U                        | 0.447 | 0.909  | 0.908   | U      | U      | 0.878  | 0.636 |
| U                         | 12.32 | 14.6   | 5.217   | 3.184  | U      | 14.305 | 12.743 |
| 6.576                     | 118.82| 95.323 | U       | U      | 745.803| 647.402|
| 10.298                    | 53.098| 113.833| 61.522  | 48.77  | 35.147 | 18.431 | 105.489| 87.769  |
| 1.914                     | 14.068| 27.587 | 9.342   | 5.503  | 4.858  | U      | 33.762 | 28.425  |
| U                        | 144.651| 218.678| 98.546  | 45.682 | U      | U      | 323.844| 276.019|
| 1.352                     | 3.336 | 5.541  | 1.866   | 1.537  | U      | U      | 5.32  | 4.504   |
| 1.914                     | 7.616 | 18.455 | 6.657   | 7.008  | 4.818  | U      | 23.761| 19.339  |
| U                        | 0.611 | 1.575  | 1.244   | 3.201  | U      | U      | 1.359 | 1.19    |
| 1.914                     | 73.419| 80.326 | 25.042  | 8.399  | U      | U      | 51.231| 48.987  |
| U                        | 0.367 | 0.404  | U       | U      | U      | U      | U   |          |          |
| U                        | 0.437 | 0.97   | 1.038   | U      | U      | U      | 0.679| 0.489   |
| 12.444                    | 57.931| 131.462| 40.31   | 26.244 | 28.096 | 17.545 | 140.177| 116.479|
| 114.287                   | 440.931| 713.509| 249.463 | 147.398| U      | U      | 706.059| 588.146|
| U                        | 21.332| 43.628 | 21.117  | 10.873 | U      | U      | 50.824| 44.202  |
| 20.725                    | 8.179 | 16.861 | 10.294  | 17.466 | 21.465 | U      | 14.776| 13.482  |
| NA                       | 4.26  | 6.05   | 2.56    | 1.72   | U      | U      | 9.72  | 5.16    |
| NA                       | 4.09  | 6.85   | 3.81    | 2.09   | U      | U      | 14.07 | 4.12    |
| NA                       | 2.25  | 3.65   | U       | U      | U      | U      | 5.74  | 2.44    |
| NA                       | 1.42  | 2.13   | 2.66    | U      | U      | U      | 3.78  | 1.91    |
| NA                       | 3.67  | 8.91   | 3.33    | 3.89   | U      | 4.59   | 15.5  | 2.93    |
| NA                       | 124.72| 199.35 | 66.36   | 26.93  | U      | U      | 419.68| 184.41  |
| NA                       | 651.14| 785.83 | 322.19  | 108.26 | 43.8   | U      | 1341.07| 556.1   |
| NA                       | 15.62 | 27.65  | 13.52   | 6.09   | 2.54   | U      | 43.47 | 16.35   |
| 0.256                     | 0.192 | 0.116  | 0.232   | 0.232  | 0.232  | 0.125  | 0.098 |
| 0.256                     | 0.192 | 0.116  | 0.232   | 0.232  | 0.232  | 0.125  | 0.098 |
| 0.256                     | 0.192 | 0.116  | 0.232   | 0.232  | 0.232  | 0.125  | 0.098 |
| 0.256                     | 0.192 | 0.116  | 0.232   | 0.232  | 0.232  | 0.125  | 0.098 |
| 0.256                     | 0.192 | 0.116  | 0.232   | 0.232  | 0.232  | 0.125  | 0.098 |
|          | Benzo(k)fluoranthene | Benzo(a)fluoranthene | Benzo(e)pyrene | Benzo(a)pyrene | Perylene | Indeno(1,2-d)pyrene | Dibenzo(a,h)anthracene | C1-Dibenzo(a,h)anthracenes | C2-Dibenzo(a,h)anthracenes |
|----------|----------------------|----------------------|----------------|----------------|----------|----------------------|--------------------------|-----------------------------|-----------------------------|
| NA       | 15.857               | 110.228              | 120.982        | 31.496         | 97.851   | 23.928               | U                        | U                           | U                           |
| NA       | 2.725                | 17.267               | 11.259         | 2.604          | 15.264   | 3.308                | U                        | U                           | U                           |
| NA       | 7.51                 | 0.31                 | 0.31           | 0.594          | 0.118    | U                    | U                        | U                           | U                           |
| NA       | 2.49                 | 9.249                | 7.249          | 1.875          | 6.556    | 1.897                | U                        | U                           | U                           |
| NA       | 92.995               | 513.669              | 625.209        | 158.105        | 455.908  | 111.966              | U                        | U                           | U                           |
| NA       | 38.898               | 153.016              | 159.493        | 45.721         | 124.145  | 39.389               | U                        | U                           | U                           |
| NA       | U                    | 80.053               | 65.997         | 15.305         | 59.401   | 18.96                | U                        | U                           | U                           |
| NA       | 3.112                | 24.455               | 23.133         | 7.165          | 24.421   | 4.955                | U                        | U                           | U                           |
| NA       | U                    | 195.333              | 73.105         | 24.05          | 123.141  | 43.701               | U                        | U                           | U                           |
| NA       | 0.7                  | 3.798                | 3.593          | J              | 2.982    | 0.709                | U                        | U                           | U                           |
| NA       | U                    | 16.702               | 10.098         | 2.296          | 16.033   | 3.22                 | U                        | U                           | U                           |
| NA       | U                    | 1.181                | 0.571          | J              | 0.965    | 0.256                | U                        | U                           | U                           |
| NA       | 9.593                | 31.423               | 41.724         | 10.517         | 21.972   | 6.588                | U                        | U                           | U                           |
| NA       | U                    | U                    | U              | U              | U                    | U                        | U                        | U                           | U                           |
| NA       | U                    | 0.487                | 0.335          | J              | 0.403    | U                    | U                        | U                           | U                           |
| NA       | 10.424               | 104.539              | 95.487         | 24.58          | 95.623   | 20.737               | U                        | U                           | U                           |
| NA       | 94.914               | 502.962              | 545.158        | 144.203        | 438.407  | 104.364              | U                        | U                           | U                           |
| NA       | U                    | 32.914               | 6.42           | 3.619          | 25.789   | 6.89                 | U                        | U                           | U                           |
| NA       | 1.41                 | 12.775               | 11.341         | 10.141         | 2.205    | U                    | U                        | U                           | U                           |
| 5.16     | NA                   | 7.22                 | 6.62           | 1.39           | 7.85     | U                    | NA                       | NA                          | NA                          |
| 4.12     | NA                   | 9.29                 | 6.56           | 1.11           | 8.14     | 1.04                 | NA                       | NA                          | NA                          |
| 2.44     | NA                   | 3.04                 | 3              | J              | 3.76     | U                    | NA                       | NA                          | NA                          |
| 1.91     | NA                   | 2.21                 | 2.18           | J              | 2.2      | U                    | NA                       | NA                          | NA                          |
| 2.93     | NA                   | U                    | 6.38           | 1.57           | 7.55     | 0.97                 | NA                       | NA                          | NA                          |
| 184.41   | NA                   | 253.56               | 199.94         | 25.02          | 314.5    | 36.8                 | NA                       | NA                          | NA                          |
| 556.1    | NA                   | 814.75               | 747.82         | 175.95         | 950.36   | 125.64               | NA                       | NA                          | NA                          |
| 16.35    | NA                   | 24.79                | 18.75          | 3.73           | 30.29    | 3.92                 | NA                       | NA                          | NA                          |
| NA       | 0.098                | 0.177                | 0.101          | 1.267          | 0.05     | 0.064                | 0.129                    | 0.129                       |
| NA       | 0.098                | 0.177                | 0.101          | 1.267          | 0.05     | 0.064                | 0.129                    | 0.129                       |
| 1        | 1                    | 1                    | 1              | 1              | 1        | 1                    | 1                        | 1                            |

**Notes:**
- **NA** indicates not available.
- **U** indicates unreported.
| Compound                          | MW   | LogP  |
|----------------------------------|------|-------|
| C22H14                           |      |       |
| C22H12                           |      |       |
| C11H10                           |      |       |
| C11H10                           |      |       |
| C12H12                           |      |       |
| C13H14                           |      |       |
| C14H12                           |      |       |
| C13H10S                          |      |       |
| C14H12S                          |      |       |
| C12H12                           |      |       |
| C13H10S                          |      |       |
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| C14H12S                          |      |       |
| C13H10S                          |      |       |
| C14H12S                          |      |       |
| C13H10S                          |      |       |
|                | J      | U      | J      | U      | J      | U      | J      | U      | J      | U      | J      | U      |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1-Methyldibenzothiophene | 7.144  | 0.148  | 1.335  | 0.156  | 1.05   | 0.143  | 2.651  | 0.0128 | 0.617  | 0.172  | 1.095  | 0.265  |
| 3-Methylphenanthrene     | 8.649  | 0.252  | 2.137  | 0.086  | 1.252  | 0.325  | 64.622 | 23.609 | 16.227 | 1.505  | 14.506 | 0.325  |
| 2-Methylphenanthrene     | 0.689  | 0.36   | 0.428  | 0.143  | 0.283  | 0.175  | 13.875 | 8.721  | 5.348  | 1.79   | 18.434 | 0.149  |
| 2-Methylanthracene       | 5.044  | 0.541  | 1.294  | 0.279  | 1.322  | 0.224  | 44.963 | 20.07  | 12.917 | 1.881  | 23.425 | 1.244  |
| 4/9-Methylphenanthrene   | 5.23   | 0.201  | 3.925  | 0.679  | 1.386  | 0.443  | 37.986 | 14.701 | 9.941  | 0.679  | 14.859 | 2.159  |
| 1-Methylphenanthrene     | 1.668  | 0.157  | 0.465  | 0.157  | 0.443  | 0.175  | 10.753 | 4.951  | 3.606  | 0.679  | 42.205 | 1.047  |
| 3,6-Dimethylphenanthrene | 13.764 | 22.421 | 126.718| 39.551 | 14.604 | 0.407  | 23.338 | 11.566 | 4.076  | 6.363  | 33.697 | 1.517  |
| Retene                  | 11.566 |        |        |        |        |        |        |        |        |        |        |        |
| 2-Methylfluoranthene     |        |        |        |        |        |        |        |        |        |        |        |        |
| Compound | Ratio | U   | U   | U   | U   | U   | U   | U   | U   | U   | U   | U   |
|----------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Benzo(b)fluoranthene | C29-Hopane | 15.95 | 50.827 | 4.249 | 71.785 | 3.587 | 5.948 | 8.823 | 81.941 | 45.885 |
| C29-Hopane | 18a-Oleanane | 3.42 | 6.73 | 1.02 | 7.483 | J | J | 1.074 | 2.026 |
| C30-Hopane | C20-TAS | 0.257 | 2.9 | U | 2.407 | U | U | J | 0.676 |
| C20-TAS | C21-TAS | 1.893 | 3.344 | U | 1.547 | 0.627 | J | J | U | 0.75 |
| C26(20S)-TAS | C26(20R)/C27(20S)-TAS | 65.899 | 75.709 | 12.332 | 104.719 | J | J | 11.709 | 72.297 | 76.284 |
| C26(20S)-TAS | C28(20S)-TAS | 8.457 | 30.781 | U | 38.805 | J | J | 17.409 | 25.034 |
| C28(20S)-TAS | 1.627 | 12.896 | 2.712 | 20.156 | 1.374 | 0.721 | 1.185 | 6.479 | 8.009 |
| C29-Hopane | 0.794 | 5.128 | J | 7.051 | 1.133 | 0.816 | 0.69 | 3.929 | 3.001 |
| 18a-Oleanane | 5.687 | 95.867 | 25.354 | 87.163 | J | J | 9.711 | 48.059 | 52.841 |
| C20-TAS | 0.502 | 4.871 | J | 5.321 | J | J | 0.678 | 4.064 | 2.63 |
| C21-TAS | 0.876 | 9.916 | 0.972 | 9.41 | 0.576 | 0.458 | 0.603 | 1.163 | 1.975 |
| C26(20S)-TAS | 0.327 | 1.611 | U | 1.667 | 0.89 | 0.616 | J | 0.741 | 0.982 |
| C28(20S)-TAS | 21.643 | 1.798 | U | 1.041 | J | J | U | U | 0.637 |
| C29-Hopane | 0.264 | U | U | U | U | U | U | U | U | U | U | U |
|          | C27H34 | C28H36 |
|----------|--------|--------|
|          |        |        |
| **C27(20R)-T C28(20R)-TAS** |       |        |
|          | 60.768 | 38.183 |
| U        | U      |        |
|          | 1.823  | 2.02   |
|          | 1.066 J|        |
|          | 2.232 U|        |
|          | 44.258 | 58.554 |
|          | 12.775 | 11.174 |
|          | 4.544  | 5.412  |
|          | 2.431  | 2.068  |
|          | 61.636 | 52.266 |
|          | 3.171  | 1.805  |
|          | 1.553  | 1.363  |
|          | 1.282  | 1.005  |
|          | 1.351 U|        |
| U        | U      |        |
|          | 19.324 | 13.512 |
|          | 161.623 J|       |
|          | 6.329  | 2.564  |
|          | 37.052 | 27.653 |
| NA      | NA     |        |
| NA      | NA     |        |
| NA      | NA     |        |
| NA      | NA     |        |
| NA      | NA     |        |
| NA      | NA     |        |
|          | 0.575  | 0.575  |
|          | 0.575  | 0.575  |
|          | 1      | 1      |


### Supplemental Table 3: Raw data for pesticides, industrial chemicals and PCB.

| Sample Location ID | Date    | Time  | Sample Type | Analyte | Latitude   | Longitude   | Aldrin | Dieldrin |
|-------------------|---------|-------|-------------|---------|------------|-------------|--------|----------|
| Bladen County 1    | 17:19   | Soil  | Organic     | Aldrin  | 34.83263   | -78.8258   | U      | U        |
| Bladen County 2    | 15:07   | Soil  | Organic     | Aldrin  | 34.21673   | -77.9462   | 7.1 U  | U        |
| New Hanover 1      | 15:31   | Soil  | Organic     | Aldrin  | 34.20505   | -77.9516   | U      | U        |
| New Hanover 2      | 15:50   | Soil  | Organic     | Aldrin  | 34.19061   | -77.9491   | 0.8 U  | U        |
| Wayne County 1     | 11:00   | Soil  | Organic     | Aldrin  | 35.36042   | -78.0782   | 3.8 U  | U        |
| Wayne County 2     | 11:22   | Soil  | Organic     | Aldrin  | 35.36941   | -78.0584   | U      | U        |
| Robeson County 1   | 12:18   | Soil  | Organic     | Aldrin  | 34.72018   | -79.2124   | 0.2 U  | U        |
| Robeson County 2   | 12:20   | Soil  | Organic     | Aldrin  | 34.72322   | -79.2118   | U      | U        |
| Bladen County 3    | 16:35   | Soil  | Organic     | Aldrin  | 34.83263   | -78.8258   | N/A    | N/A      |
| Bladen County 4    | 12:40   | Soil  | Organic     | Aldrin  | 34.2164    | -77.9464   | 1.4 U  | U        |

**LLOQ (ng/g)**

|          | September | January |
|----------|-----------|---------|
| Aldrin   | 0.05      | 0.05    |
| Dieldrin | 0.32      | 0.32    |

* Values are expressed in unit of ng/g; U, Undetected; J, Below Limit of Quantification; LLOQ, lower limit of quantification.
| Compound | LLOQ (ng/g) | Endrin | Endrin Aldehyde | Endrin Ketone | Heptachlor | Heptachlor-Epoxide | Oxychlordane | Alpha-Chlordane | Gamma-Chlordane | Trans-Nonachlor |
|----------|------------|--------|----------------|--------------|------------|-------------------|--------------|----------------|----------------|----------------|
| Endrin   | 0.1        | U      | U              | U            | U          | U                 | U            | U              | U              | U              |
| Endrin   | 0.2        | U      | U              | U            | U          | U                 | U            | U              | U              | U              |
| Endrin   | 0.1        | U      | U              | U            | U          | U                 | U            | U              | U              | U              |
| Endrin   | 0.2        | U      | U              | U            | U          | U                 | U            | U              | U              | U              |
| Endrin   | 0.2        | U      | U              | U            | U          | U                 | U            | U              | U              | U              |
| Endrin   | 0.5        | U      | 1.4            | U            | J          | J                 | J            | 3.1            | 0.2            | 0.2            |

* Values are expressed in unit of ng/g; U, Undetected; J, Below Limit of Quantification; LLOQ, lower limit of quantification, defined by the lowest quantifiable point in calibration curve; NA, not available.
| C10H5Cl9  | C6H6Cl6 | C6H6Cl6 | C6H6Cl6 | C14H9Cl3 | C14H10Cl4 | C14H10Cl4 | C14H8Cl4 |
|-----------|---------|---------|---------|----------|-----------|-----------|---------|
| Cis-Nonachlor | Alpha-HCH | Beta-HCH | Delta-HCH | Gamma-HCH | DDMU | 2,4'-DDD | 4,4'-DDD | 2,4'-DDE |
| U | U | 1.3 | U | U | U | U | 0.1 | 0.3 | U |
| U | U | U | U | U | U | U | 0.1 | U | U |
| U | U | U | U | U | U | U | U | 0.3 | 2.5 | 0.2 |
| U | U | U | U | U | U | U | U | 0.2 | 0.9 | U |
| U | U | U | U | U | U | U | U | 0.5 | U | U |
| U | U | 7.2 | U | U | U | U | 4.5 | U | U |
| U | U | U | U | U | U | U | U | U | U | U |
| U | U | 0.5 | U | U | U | U | U | U | U | U |
| U | U | U | U | U | U | U | U | U | U | U |
| U | U | U | 1.3 | U | U | 7.7 | U | U | 0.3 | U |
| 0.1 | U | U | U | U | U | 6.6 | U | 0.3 | J |
| 0.1 | U | U | U | U | U | J | 0.1 | 0.3 | 0.1 |
| U | U | U | U | U | U | U | 0.3 | U | U | U |
| U | U | U | U | U | U | U | U | 0.3 | U | U |
| 1.8 | U | J | U | U | U | U | 3.2 | U | U | U |
| 0.1 | U | U | U | 0.5 | U | U | 0.2 | U | 0.2 | U |
| U | U | U | U | U | U | U | U | U | U | U |
| U | U | U | U | U | U | U | U | U | U | U |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 0.02 | 0.08 | 0.12 | 0.07 | 0.05 | 0.11 | 0.02 | 0.02 | 0.07 | |
| 0.02 | 0.08 | 0.12 | 0.07 | 0.05 | 0.11 | 0.02 | 0.02 | 0.07 | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

* Values are expressed in unit of ng/g; U, Undetected; J, Below Limit of Quantification; LLOQ, lower limit of quantifiable point in calibration curve; NA, not available.
| 4,4′-DDE | 2,4′-DDT | 4,4′-DDT | 1,2,3,4-Tet | 1,2,4,5-Tet | Hexachloro | Pentachloro | Pentachloro | Endosulfan |
|----------|----------|----------|-------------|-------------|------------|------------|------------|-----------|
| 0.2 U    | U        | U        | U           | U           | U          | U          | U          | U         |
| 1.3 U    | U        | U        | U           | U           | U          | U          | U          | U         |
| 14.3 U   | 5.7 U    | U        | U           | U           | U          | 7.9 U      |            |           |
| 3.5 U    | 0.5 U    | 1.3 U    | U           | U           | U          | 3.7 U      |            |           |
| 1.3 U    | U        | U        | U           | U           | U          | 2.8 U      |            |           |
| U        | U        | U        | U           | U           | 2.9 U      | 1.2 U      | 61.1 U     |           |
| 6.5 U    | U        | U        | U           | U           | U          | U          |            |           |
| 0.6 U    | U        | U        | U           | 0.3 U       | U          | 0.1 U      |            |           |
| 1.2 U    | U        | U        | U           | U           | U          | U          |            |           |
| U        | U        | U        | U           | U           | 1.1 U      | 0.6 U      |            |           |
| U        | U        | U        | U           | U           | U          | U          |            |           |
| 0.1 U    | U        | U        | U           | U           | U          | U          |            |           |
| 0.9 U    | 1.4 U    | U        | U           | U           | U          | U          |            |           |
| 8.9 U    | 1.8 U    | 8.5 U    | U           | U           | 0 U        | 0          | 5.7        |           |
| 5 U      | 1.4 U    | 6.1 U    | U           | U           | U          | 5          |            |           |
| 1.3 U    | 0.4 U    | 1 U      | U           | U           | U          | U          |            |           |
| 10.9 U   | 7.8 U    | U        | U           | U           | U          | 1.3 U      |            |           |
| 0.7 U    | 0.4 U    | 0.3 U    | U           | U           | U          | U          |            |           |
| 0.8 U    | U        | U        | U           | U           | U          | U          |            |           |
| U        | U        | U        | U           | U           | U          | U          |            |           |
| N/A      | N/A      | N/A      | N/A         | N/A         | N/A        | N/A        | N/A        | N/A       |
| N/A      | N/A      | N/A      | N/A         | N/A         | N/A        | N/A        | N/A        | N/A       |
| N/A      | N/A      | N/A      | N/A         | N/A         | N/A        | N/A        | N/A        | N/A       |
| N/A      | N/A      | N/A      | N/A         | N/A         | N/A        | N/A        | N/A        | N/A       |
| 0.04 U   | 0.04 U   | 0.03 U   | 0.01 U      | 0.02 U      | 0.02 U     | 0.02 U     | 0.02 U     | 0.19 U    |
| 0.04 U   | 0.04 U   | 0.03 U   | 0.01 U      | 0.02 U      | 0.02 U     | 0.02 U     | 0.02 U     | 0.19 U    |
| N/A      | N/A      | N/A      | N/A         | N/A         | N/A        | N/A        | N/A        | N/A       |
| Endosulfan | Endosulfan | Mirex | Chlorpyrifos | PCB 1 | PCB 2 | PCB 3 | PCB 4/10 | PCB 7/9 |
|-----------|------------|-------|--------------|-------|-------|-------|-----------|---------|
| U         | U          | 0.6   | U            | U     | U     | U     | U         | U       |
| U         | U          | 59.8  | U            | U     | U     | U     | U         | U       |
| U         | U          | 1.2   | U            | U     | U     | U     | U         | U       |
| U         | U          | 2.8   | U            | U     | U     | U     | U         | U       |
| U         | U          | 0.5   | 2.2          | U     | U     | U     | U         | U       |
| U         | U          | 0.8   | U            | U     | U     | U     | U         | U       |
| U         | 0.6        | 13.1  | U            | U     | U     | U     | U         | U       |
| U         | U          | 1.1   | U            | U     | U     | U     | U         | U       |
| U         | U          | 2.5   | U            | U     | U     | U     | U         | U       |
| U         | U          | 2.3   | U            | U     | U     | U     | U         | U       |
| U         | U          | 2     | U            | U     | U     | U     | U         | U       |
| U         | 0.4        | 2.1   | U            | U     | U     | U     | U         | U       |
| U         | U          | J     | U            | U     | U     | U     | U         | U       |
| U         | U          | 1.4   | U            | U     | U     | U     | U         | U       |
| U         | U          | U     | U            | U     | U     | U     | U         | U       |

| U         | U          | U     | U            | U     | U     | U     | U         | U       |

| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |

| 0.19      | 0.08       | 0.02  | 0.29         | 0.016 | 0.016 | 0.016 | 0.025     | 0.025   |
| 0.19      | 0.08       | 0.02  | 0.29         | 0.016 | 0.016 | 0.016 | 0.025     | 0.025   |

| N/A       | N/A        | N/A   | N/A          | N/A   | N/A   | N/A   | N/A       | N/A     |
| PCB 6 | PCB 8/5 | PCB 14 | PCB 11 | PCB 12 | PCB 13 | PCB 15 | PCB 19 | PCB 30 |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | J       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | J       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| U     | U       | U      | U      | U      | U      | U      | U      | U      |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A   | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |

| 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.015 | 0.015 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.015 | 0.015 |
| N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| PCB 18 | PCB 17 | PCB 27 | PCB 24 | PCB 16/32 | PCB 34 | PCB 23 | PCB 29 | PCB 26 |
|--------|--------|--------|--------|-----------|--------|--------|--------|--------|
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| U      | U      | U      | U      | U         | U      | U      | U      | U      |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |

| 0.015  | 0.015  | 0.015  | 0.015  | 0.015     | 0.015  | 0.015  | 0.015  | 0.015  |
|--------|--------|--------|--------|-----------|--------|--------|--------|--------|
| 0.015  | 0.015  | 0.015  | 0.015  | 0.015     | 0.015  | 0.015  | 0.015  | 0.015  |
| N/A    | N/A    | N/A    | N/A    | N/A       | N/A    | N/A    | N/A    | N/A    |
| PCB 25 | PCB 28/31 | PCB 21/20, PCB 22 | PCB 36 | PCB 39 | PCB 38 | PCB 35 | PCB 37 |
|--------|-----------|------------------|--------|--------|--------|--------|--------|
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | 0.1       | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| U      | 0.1       | U                | U      | U      | U      | U      | U      |
| U      | U         | U                | U      | U      | U      | U      | U      |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| 0.015  | 0.017     | 0.015            | 0.015  | 0.015  | 0.015  | 0.015  | 0.015  |
| 0.015  | 0.017     | 0.015            | 0.015  | 0.015  | 0.015  | 0.015  | 0.015  |
| N/A    | N/A       | N/A              | N/A    | N/A    | N/A    | N/A    | N/A    |
| PCB 54 | PCB 50 | PCB 53 | PCB 51 | PCB 45 | PCB 46/69, PCB 52 | PCB 43 | PCB 49 |
|--------|--------|--------|--------|--------|------------------|--------|--------|
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| U      | U      | U      | U      | U      | U                | U      | U      |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A              | N/A    | N/A    |

0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01

N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/A
| PCB 48/75, PCB 65 | PCB 62 | PCB 44 | PCB 59 | PCB 42 | PCB 72 | PCB 71 | PCB 68/41 |
|-------------------|--------|--------|--------|--------|--------|--------|-----------|
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| U                 | U      | U      | U      | U      | U      | U      | U         |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| 0.01              | 0.01   | 0.01   | 0.024  | 0.01   | 0.01   | 0.01   | 0.01      |
| 0.01              | 0.01   | 0.01   | 0.024  | 0.01   | 0.01   | 0.01   | 0.01      |
| N/A               | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A       |
| PCB 40/57 PCB 67 | PCB 58 | PCB 63 | PCB 61/74 PCB 76/70 | PCB 66/80 PCB 55 | PCB 56 |
|-----------------|--------|--------|-----------------------|-------------------|-------|
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| U               | U      | U      | U                     | U                 | U     |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |
| N/A             | N/A    | N/A    | N/A                   | N/A               | N/A   |

| 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.013 | 0.01 | 0.01 |
|------|------|------|------|------|-------|------|------|

| N/A | N/A | N/A | N/A | N/A | N/A   | N/A | N/A |

Note: The table contains data on the presence or absence of chlorinated compounds. U indicates the presence of the compound, while N/A indicates data not available. The values 0.01 and 0.013 represent concentrations in mg/kg.
| PCB 60 | PCB 79 | PCB 78 | PCB 81 | PCB 77 | PCB 104 | PCB 96/10: PCB 100 | PCB 94 |
|--------|--------|--------|--------|--------|--------|---------------------|--------|
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| U      | U      | U      | U      | U      | U      | U                   | U      |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| 0.01   | 0.01   | 0.01   | 0.01   | 0.014  | 0.059  | 0.059               | 0.059  |
| 0.01   | 0.01   | 0.01   | 0.01   | 0.014  | 0.059  | 0.059               | 0.059  |
| N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A                 | N/A    |
| PCB 102/9 | PCB 121/9 | PCB 88 | PCB 91 | PCB 92 | PCB 101/8 | PCB 89/11 | PCB 99 | PCB 119 |
|------------|------------|--------|--------|--------|------------|------------|--------|--------|
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| U          | U          | U      | U      | U      | U          | U          | U      | U      |
| 0.3        | U          | U      | U      | U      | U          | U          | U      | U      |
| 0.059      | 0.059      | 0.059  | 0.059  | 0.059  | 0.059      | 0.059      | 0.059  | 0.059  |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| 0.059      | 0.059      | 0.059  | 0.059  | 0.059  | 0.059      | 0.059      | 0.059  | 0.059  |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| N/A        | N/A        | N/A    | N/A    | N/A    | N/A        | N/A        | N/A    | N/A    |
| PCB 112 | PCB 120/8:PCB 97/12:PCB 116/1:PCB 111/1:PCB 109 | PCB 85 | PCB 110 | PCB 82 |
|---------|-----------------------------------------------|-------|---------|-------|
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| U       | U                                             | U     | U       | U     |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |
| 0.059   | 0.059                                         | 0.059 | 0.059   | 0.059 |
| 0.059   | 0.059                                         | 0.059 | 0.059   | 0.059 |
| N/A     | N/A                                           | N/A   | N/A     | N/A   |

74472-36-9 - - - 74472-35-6 835510-45-4 38380-03-5 52663-62-4
C12H5Cl5 - - - C12H5Cl5 C12H5Cl5 C12H5Cl5 C12H5Cl5
PCB 112 PCB 120/8:PCB 97/12:PCB 116/1:PCB 111/1:PCB 109 PCB 85 PCB 110 PCB 82
U U U U U U U U
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U U U U U U U U
N/A N/A N/A N/A N/A N/A N/A N/A
| PCB 124 | PCB 106/11PCB 123 | PCB 118/11PCB 114/1PCB 105/1PCB 126 | PCB 126 | PCB 155 | PCB 150 |
|---------|-------------------|-------------------------------------|---------|---------|---------|
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| U       | U                 | U                                   | U       | U       | U       |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     |

| 0.059   | 0.059             | 0.059                               | 0.045   | 0.059   | 0.04    | 0.033   | 0.033   | 0.033 |
| 0.059   | 0.059             | 0.059                               | 0.045   | 0.059   | 0.04    | 0.033   | 0.033   | 0.033 |
| N/A     | N/A               | N/A                                 | N/A     | N/A     | N/A     | N/A     | N/A     | N/A   |
| PCB 152 | PCB 148/1| PCB 136/1 | PCB 151 | PCB 135 | PCB 144 | PCB 147 | PCB 149/1 | PCB 140 |
|---------|----------|----------|---------|---------|---------|---------|-----------|---------|
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| U       | U        | U        | U       | U       | U       | U       | U         | U       |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| 0.033   | 0.033    | 0.033    | 0.033   | 0.033   | 0.033   | 0.033   | 0.033     | 0.033   |
| 0.033   | 0.033    | 0.033    | 0.033   | 0.033   | 0.033   | 0.033   | 0.033     | 0.033   |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     |
| PCB 143 | PCB 134/1| PCB 165/1 | PCB 142/1 | PCB 153/1 | PCB 132 | PCB 141 | PCB 137 | PCB 130 |
|---------|-----------|-----------|-----------|-----------|--------|--------|--------|--------|
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | 0.2       | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | 0.2       | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | 0.1       | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | 0.1       | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| U       | U         | U         | U         | U         | U      | U      | U      | U      |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| 0.033   | 0.033     | 0.033     | 0.033     | 0.028     | 0.033  | 0.033  | 0.033  | 0.033  |
| 0.033   | 0.033     | 0.033     | 0.033     | 0.028     | 0.033  | 0.033  | 0.033  | 0.033  |
| N/A     | N/A       | N/A       | N/A       | N/A       | N/A    | N/A    | N/A    | N/A    |
| PCB 138/1 | PCB 160/1 | PCB 129 | PCB 166 | PCB 159 | PCB 162 | PCB 128/1 | PCB 156 | PCB 157 |
|-----------|-----------|---------|---------|---------|---------|-----------|---------|---------|
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| 0.4       | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| 3.5       | U         | U       | U       | U       | U       | U         | U       | U       |
| 1.9       | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| 5.9       | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| 0.1       | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| 8.7       | U         | U       | U       | U       | U       | U         | U       | U       |
| 1.2       | U         | U       | U       | U       | U       | U         | U       | U       |
| U         | U         | U       | U       | U       | U       | U         | U       | U       |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| 0.033     | 0.033     | 0.033   | 0.033   | 0.033   | 0.033   | 0.021     | 0.033   | 0.033   |
| 0.033     | 0.033     | 0.033   | 0.033   | 0.033   | 0.033   | 0.021     | 0.033   | 0.033   |
| N/A       | N/A       | N/A     | N/A     | N/A     | N/A     | N/A       | N/A     | N/A     |
| PCB 169 | PCB 188 | PCB 184 | PCB 179 | PCB 176 | PCB 186/1:PCB 175 | PCB 187/1:PCB 183 |
|---------|---------|---------|---------|---------|------------------|------------------|
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | 0.1 U            | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | 0.1 U            | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | 1.6 U            | U                |
| U       | U       | U       | U       | U       | 0.5 U            | U                |
| U       | U       | U       | U       | U       | U                | U                |
| U       | U       | U       | U       | U       | U                | U                |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A              | N/A              |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A              | N/A              |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A              | N/A              |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A              | N/A              |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A              | N/A              |

PCB 169 | PCB 188 | PCB 184 | PCB 179 | PCB 176 | PCB 186/1:PCB 175 | PCB 187/1:PCB 183 |

| N/A | 0.033 | 0.028 | 0.028 | 0.028 | 0.028 | 0.028 | 0.023 | 0.028 |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| N/A | 0.033 | 0.028 | 0.028 | 0.028 | 0.028 | 0.028 | 0.023 | 0.028 |
| N/A | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| PCB 185 | PCB 174 | PCB 181 | PCB 177 | PCB 171 | PCB 173 | PCB 192/1 | PCB 190/1 | PCB 191 |
|---------|---------|---------|---------|---------|---------|-----------|-----------|---------|
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | 0.3 U     | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | 2.6 U     | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| U       | U       | U       | U       | U       | U       | U         | 0.1 U     | U       |
| U       | U       | U       | U       | U       | U       | U         | 3.8 U     | U       |
| U       | U       | U       | U       | U       | U       | U         | 1 U       | U       |
| U       | U       | U       | U       | U       | U       | U         | U         | U       |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| 0.028   | 0.028   | 0.028   | 0.028   | 0.028   | 0.028   | 0.028     | 0.028     | 0.028   |
| 0.028   | 0.028   | 0.028   | 0.028   | 0.028   | 0.028   | 0.028     | 0.028     | 0.028   |
| N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A       | N/A       | N/A     |
| PCB 170/1 | PCB 189 | PCB 197 | PCB 198 | PCB 199 |
|-----------|---------|---------|---------|---------|
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| 0.1       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| 0.6       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| U         | U       | U       | U       | U       |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     |
| 0.021     | 0.028   | 0.053   | 0.053   | 0.053   |
| 0.021     | 0.028   | 0.053   | 0.053   | 0.053   | 0.053   | 0.053   | 0.053   |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| PCB 203/1 | PCB 195 | PCB 194 | PCB 205 | PCB 208 | PCB 207 | PCB 206 | PCB 209 |
|-----------|---------|---------|---------|---------|---------|---------|---------|
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| U         | U       | U       | U       | U       | U       | U       | U       |
| 0.1       | U       | U       | U       | U       | U       | U       | U       |

| PCB 203/1 | PCB 195 | PCB 194 | PCB 205 | PCB 208 | PCB 207 | PCB 206 | PCB 209 |
|-----------|---------|---------|---------|---------|---------|---------|---------|
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
| 0.053     | 0.053   | 0.053   | 0.053   | 0.025   | 0.025   | 0.025   | 0.026   |
| 0.053     | 0.053   | 0.053   | 0.053   | 0.025   | 0.025   | 0.025   | 0.026   |
| N/A       | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |
**Supplemental Table 5**: Raw data for metals.

### Formula

### CAS RN

### Name

| Sample Location ID | Date     | Time  | Analysis Date | Sample Type | Analyte | Latitude  | Longitude  |
|--------------------|----------|-------|---------------|-------------|---------|-----------|------------|
| Bladen County 1    | 9/19/18  | 17:19 | 9/2/2019      | Soil        | Metal   | 34.83263  | -78.8258   |
| Bladen County 2    | 9/19/18  | 19:25 | 9/2/2019      | Soil        | Metal   | 34.74559  | -78.8024   |
| Robeson County 1   | 9/21/18  | 12:25 | 9/2/2019      | Soil        | Metal   | 34.72018  | -79.2124   |
| Robeson County 2   | 9/21/18  | 12:49 | 9/2/2019      | Soil        | Metal   | 34.72301  | -79.2131   |
| Robeson County 3   | 9/21/18  | 13:02 | 9/2/2019      | Soil        | Metal   | 34.72322  | -79.2118   |
| New Hanover 1      | 9/22/18  | 15:06 | 9/2/2019      | Soil        | Metal   | 34.20505  | -77.9516   |
| New Hanover 2      | 9/22/18  | 15:30 | 9/2/2019      | Soil        | Metal   | 34.20613  | -77.9491   |
| New Hanover 3      | 9/22/18  | 15:49 | 9/2/2019      | Soil        | Metal   | 34.20646  | -77.9491   |
| New Hanover 4      | 9/22/18  | 16:31 | 9/2/2019      | Soil        | Metal   | 34.17225  | -77.9487   |
| Wayne County 1     | 9/23/18  | 11:01 | 9/2/2019      | Soil        | Metal   | 35.36042  | -78.0782   |
| Robeson County 1   | 1/29/19  | 12:18 | 9/2/2019      | Soil        | Metal   | 34.72301  | -79.2131   |
| Robeson County 2   | 1/29/19  | 12:18 | 9/2/2019      | Soil        | Metal   | 34.72018  | -79.2124   |
| Robeson County 3   | 1/29/19  | 12:20 | 9/2/2019      | Soil        | Metal   | 34.72322  | -79.2118   |
| Bladen County 2    | 1/29/19  | 15:41 | 9/2/2019      | Soil        | Metal   | 34.83263  | -78.8258   |
| Bladen County 3    | 1/29/19  | 15:41 | 9/2/2019      | Soil        | Metal   | 34.83263  | -78.8258   |
| New Hanover 1      | 1/30/19  | 11:20 | 9/2/2019      | Soil        | Metal   | 34.17225  | -79.2124   |
| New Hanover 2      | 1/30/19  | 11:45 | 9/2/2019      | Soil        | Metal   | 34.2164   | -77.9464   |
| Wayne County 1     | 1/30/19  | 14:10 | 9/2/2019      | Soil        | Metal   | 35.36042  | -78.0782   |
| Wayne County 2     | 1/30/19  | 14:30 | 9/2/2019      | Soil        | Metal   | 35.36941  | -78.0584   |
| Robeson County 1   | 5/9/19   | 14:20 | 9/2/2019      | Soil        | Metal   | 34.72018  | -79.2124   |
| Robeson County 2   | 5/9/19   | 14:20 | 9/2/2019      | Soil        | Metal   | 34.72301  | -79.2131   |
| Robeson County 3   | 5/9/19   | 14:20 | 9/2/2019      | Soil        | Metal   | 34.72322  | -79.2118   |
| Bladen County 1    | 5/9/19   | 16:35 | 9/2/2019      | Soil        | Metal   | 34.83263  | -78.8258   |
| Bladen County 2    | 5/9/19   | 16:35 | 9/2/2019      | Soil        | Metal   | 34.83263  | -78.8258   |
| New Hanover 1      | 5/10/19  | 12:10 | 9/2/2019      | Soil        | Metal   | 34.17225  | -77.9464   |
| New Hanover 2      | 5/10/19  | 12:40 | 9/2/2019      | Soil        | Metal   | 34.2164   | -77.9464   |
| Wayne County 1     | 5/10/19  | 14:57 | 9/2/2019      | Soil        | Metal   | 35.36042  | -78.0782   |

**LLOQ (ug/g)**

* Values are expressed in unit of ug/g; LLOQ, lower limit of quantification, defined by the lowest qua
|     | Al  | Sb  | As  | Ba  | Be  | Cd  | Cr  | Co  | Cu  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code| 7429-90-5 | 7440-36-0 | 7440-38-2 | 7440-39-3 | 7440-41-7 | 7440-43-9 | 7440-47-3 | 7440-48-4 | 7440-50-8 |
| Al  | J   | J   | J   | J   | J   | J   | J   | J   | J   |
| Sb  | 0.1 | 1   | 5   | 0.1 | 0.1 | 5   | 0.1 | 1   |
| As  | 50  | 0.1 | 1   | 5   | 0.1 | 0.1 | 5   | 0.1 | 1   |

Values are expressed in unit of ug/g; LLOQ, lower limit of quantification, defined by the lowest quantifiable point in calibration curve; J, below limit of quantification.
| Iron  | Lead  | Lithium | Manganese/Nickel | Selenium | Silver | Strontium | Zinc  |
|-------|-------|---------|------------------|----------|--------|-----------|-------|
| 4946  | 2.858 J | 37.24 | 0.2246 | 0.2454 J | 2.475 | 12.44 |
| 7378  | 6.283 J | 32.27 | 1.165 | 0.2609 J | 2.059 | 12.33 |
| 6571  | 32.04 J | 22.49 | 1.188 | 0.4528 J | 1.627 | 20.77 |
| 5686  | 4.253 J | J   | J   | J   | 1.052 | 6.386 |
| 13260 | 5.175 | 5.354 | 19.13 | 1.387 | 0.4024 J | 2.519 | 12.22 |
| 7139  | 32.58 J | 167.9 | 2.883 | 0.3175 J | 61.24 | 102.6 |
| 9202  | 58.48 J | 77.51 | 2.696 | 0.3872 J | 19.42 | 87.23 |
| 7648  | 50.21 J | 35.78 | 2.687 | 0.23 J | 17.27 | 274.3 |
| 3014  | 3.596 J | J   | 0.4269 J | J   | 5.057 | 12.54 |
| 8114  | 22.23 J | 69.79 | 0.5878 | 0.3452 J | 3.941 | 19.59 |
| 7393  | 17.18 J | 32.94 | 1.142 | 0.4213 J | 1.912 | 22.35 |
| 4930  | 7.245 J | J   | 0.7292 | 0.3143 J | 1.094 | 9.902 |
| 12330 | 4.787 | 5.309 | 15.73 | 1.227 | 0.3124 J | 2.386 | 23.92 |
| 12660 | 5.344 J | J   | 0.3472 | 0.238 J | 6.847 | 4.052 |
| 5735  | 2.614 J | J   | 0.3625 J | J   | 2.986 | 2.542 |
| 14070 | 105.6 J | 94.85 | 6.487 | 0.6178 | 0.1996 | 50.46 | 288.6 |
| 4519  | 3.128 J | 28.02 | 1.285 | 0.2405 J | 19.5 | 17.32 |
| 11520 | 6.283 J | 80.08 | 0.414 | 0.5198 | 0.05994 | 4.998 | 22.35 |
| 6016  | 3.537 J | 77.54 | 0.6958 J | J   | 4.213 | 16.23 |
| 5916  | 10.35 J | 26.3 | 0.9321 | 0.2665 J | 1.45 | 15.82 |
| 10680 | 16.86 | 5.627 | 15.09 | 1.562 | 0.7693 J | 1.888 | 15.95 |
| 9346  | 8.794 J | 23.26 | 1.433 | 0.2623 J | 1.556 | 16.74 |
| 9451  | 7.819 J | 47.42 J | 0.3661 J | J   | 16.88 | 12.72 |
| 5060  | 10.32 J | 116.9 | 1.495 | 0.2361 J | 12.76 | 10.5 |
| 7617  | 18.84 J | 45.43 | 3.992 | 0.2878 J | 42.53 | 95.28 |
| 8811  | 98.44 J | 55.82 | 4.938 | 2.421 | 0.1468 | 23.29 | 176.1 |
| 6285  | 7.085 J | 61.55 | 0.7702 J | J   | 2.445 | 16.64 |

| 50 | 1 | 5 | 15 | 0.1 | 0.2 | 0.05 | 0.1 | 1 |
| Mg  | Sn  | Tl   | V   | Hg  |
|-----|-----|------|-----|-----|
| 7439-95-4 | 7440-31-5 | 7440-28-0 | 7440-62-2 | 7439-97-6 |

| Magnesium Tin | Thallium | Vanadium | Mercury |
|---------------|----------|----------|---------|
| 247.9         | 0.9087 J | 2.926    | 0.006   |
| 236.9         | 0.8736 J | 8.047    | 0.011   |
| 548.9         | 0.3837 J | 8.007    | 0.017   |
| 232           | 0.6986 J | 5.709    | 0.016   |
| 442.6         | 0.5098 J | 13.5     | 0.018   |
| 571.5         | 1.365 J  | 4.725    | 0.05    |
| 498.2         | 0.6949 J | 9.103    | 0.047   |
| 642.5         | 1.021 J  | 5.62     | 0.008   |
| 165.9         | 0.7685 J | 1.737    | 0.003   |
| 430.4         | 0.3912 J | 8.067    | 0.028   |
| 496.3         | 0.2933 J | 9.006    | 0.014   |
| 158.3         | 0.2569 J | 5.488    | 0.02    |
| 389.5         | 0.5449 J | 13.26    | 0.022   |
| 192.4         | 0.5405 J | 11.87    | 0.022   |
| 128.8         | 0.6172 J | 5.613    | 0.011   |
| 1462          | 1.301 J  | 18.08    | 0.051   |
| 269.6         | 1.315 J  | 4.402    | 0.006   |
| 569.5         | 0.5655 J | 10.65    | 0.022   |
| 383.9         | 0.9038 J | 3.873    | 0.004   |
| 267.2         | 0.3154 J | 7.255    | 0.017   |
| 352.8         | 0.5643 J | 12.73    | 0.031   |
| 995.8         | 0.4201 J | 11.19    | 0.025   |
| 250.8         | 0.2081 J | 10.23    | 0.009   |
| 279.6         | 0.4538 J | 6.856    | 0.058   |
| 940           | 0.3978 J | 8.647    | 0.014   |
| 857.1         | 0.4913 J | 13.83    | 0.094   |
| 307.5         | 0.6697 J | 5.285    | 0.006   |
| 50            | 0.1      | 0.1      | 0.1     | 0.002   |
### Supplemental Table 6: QC Data for PAH and Organics

| Sample Descriptor | Procedure Blank | SAMPLE |
|-------------------|----------------|--------|
| Original Sample   |                |        |
| Reporting Units   | ng/g           | ng/g   |
| Calculation Basis (dry/wet) | Dry | Dry |
| Method            | GCMS           | GCMS   |
| Analysis Date     | 07/31/19       | 07/31/19 |

#### Surrogate Compounds

| Surrogate Compounds | % Recovery | % Recovery |
|---------------------|------------|------------|
| d8-Naphthalene      | 98.9       | 81.2       |
| d10-Acenaphthene    | 88.3       | 78.1       |
| d10-Phenanthrene    | 78.4       | 75.2       |
| d12-Chrysene        | 126.6      | 76.8       |
| d12-Perylene        | 110.1      | 74.5       |

#### Total PAHs

| Total PAHs              | Concentration | Concentration |
|-------------------------|---------------|---------------|
| Total PAHs with Perylene| 1.7           | 224.7         |
| Total PAHs without Perylene | 1.7           | 223.3         |
| Total NS&T PAHs         | 1.7           | 174.2         |

#### PAH Compounds

| PAH Compounds                    | Concentration | Concentration |
|----------------------------------|---------------|---------------|
| Naphthalene                      | 0.5 J         | 109.5         |
| C1-Naphthalenes                  | 0.3 J         | 8.3           |
| C2-Naphthalenes                  | 0.0 ND        | 3.3           |
| C3-Naphthalenes                  | 0.0 ND        | 1.2           |
| C4-Naphthalenes                  | 0.0 ND        | 0.3 J         |
| Biphenyl                         | 0.4 <3xMDL    | 1.0           |
| Acenaphylene                     | 0.0 ND        | 0.5           |
| Acenaphthene                     | 0.0 ND        | 0.0 ND        |
| Fluorene                         | 0.0 ND        | 0.0 ND        |
| C1-Fluorenes                     | 0.0 ND        | 0.0 ND        |
| C2-Fluorenes                     | 0.0 ND        | 0.0 ND        |
| C3-Fluorenes                     | 0.0 ND        | 0.0 ND        |
| Phenanthrene                     | 0.5 <3xMDL    | 4.4           |
| Anthracene                       | 0.0 ND        | 1.0           |
| C1-Phenanthrenes/Anthracenes     | 0.0 ND        | 4.0           |
| C2-Phenanthrenes/Anthracenes     | 0.0 ND        | 1.1           |
| C3-Phenanthrenes/Anthracenes     | 0.0 ND        | 0.8 J         |
| C4-Phenanthrenes/Anthracenes     | 0.0 ND        | 2.5           |
| Dibenzothiophene                 | 0.0 ND        | 0.0 ND        |
| C1-Dibenzothiophenes             | 0.0 ND        | 0.0 ND        |
| C2-Dibenzothiophenes             | 0.0 ND        | 0.0 ND        |
| C3-Dibenzothiophenes             | 0.0 ND        | 0.0 ND        |
| Fluoranthene                     | 0.0 ND        | 10.7          |
| Pyrene                           | 0.0 ND        | 9.6           |
| C1-Fluoranthenes/Pyrenes         | 0.0 ND        | 3.6           |
| Compound                        | Concentration | Detection Limit | J    |
|--------------------------------|---------------|-----------------|------|
| C2-Fluoranthenes/Pyrenes       | 0.0           | ND              | 1.4  |
| C3-Fluoranthenes/Pyrenes       | 0.0           | ND              | 1.0  |
| Benzo(a)anthracene             | 0.0           | ND              | 4.3  |
| Chrysene                       | 0.0           | ND              | 6.1  |
| C1-Chrysenes                   | 0.0           | ND              | 2.6  |
| C2-Chrysenes                   | 0.0           | ND              | 1.7  |
| C3-Chrysenes                   | 0.0           | ND              | 0.0  |
| C4-Chrysenes                   | 0.0           | ND              | 0.0  |
| Benzo(b)fluoranthene           | 0.0           | ND              | 9.7  |
| Benzo(k)fluoranthene           | 0.0           | ND              | 5.2  |
| Benzo(e)pyrene                 | 0.0           | ND              | 7.2  |
| Benzo(a)pyrene                 | 0.0           | ND              | 6.6  |
| Perylene                       | 0.0           | ND              | 1.4  |
| Indeno(1,2,3-c,d)pyrene         | 0.0           | ND              | 7.9  |
| Dibenzo(a,h)anthracene         | 0.0           | ND              | 0.0  |
| Benzo(g,h,i)perylene           | 0.0           | ND              | 8.1  |
| 2-Methylnaphthalene            | 0.2           | J               | 5.2  |
| 1-Methylnaphthalene            | 0.2           | J               | 3.1  |
| 2,6-Dimethylnaphthalene        | 0.0           | ND              | 1.2  |
| 1,6,7-Trimethylnaphthalene     | 0.0           | ND              | 0.6  |
| 1-Methylphenanthrene           | 0.0           | ND              | 3.0  |
| % Recovery | % Recovery |
|------------|------------|
| 81.3       | 81.2       |
| 78.8       | 78.1       |
| 79.0       | 75.2       |
| 74.2       | 76.8       |
| 76.7       | 74.5       |

| Concentration | RPD | Concentration |
|---------------|-----|---------------|
| 215.4         | 4.3 | 224.7         |
| 213.9         | 4.3 | 223.3         |
| 168.0         | 3.6 | 174.2         |

| Concentration | RPD | Concentration |
|---------------|-----|---------------|
| 109.0         | 0.5 | 109.5         |
| 2.2           | 116.3 | <10xMDL | 8.3 |
| 1.0           | 104.4 | <10xMDL | 3.3 |
| 0.0           | ND | 1.2 |
| 0.0           | ND | 0.3 |
| 1.3           | 26.5 | <10xMDL | 1.0 |
| 0.9           | 46.8 | <10xMDL | 0.5 |
| 0.0           | ND | 0.0 |
| 0.2           | J | 0.0 |
| 0.0           | ND | 0.0 |
| 0.7           | J | 0.0 |
| 0.0           | ND | 0.0 |
| 4.2           | 4.7 | <10xMDL | 4.4 |
| 1.1           | 11.3 | <10xMDL | 1.0 |
| 3.5           | 14.2 | <10xMDL | 4.0 |
| 0.7           | J | 1.1 |
| 2.8           | 8.8 | 0.8 |
| 2.0           | 22.7 | <10xMDL | 2.5 |
| 0.0           | ND | 0.0 |
| 0.0           | ND | 0.0 |
| 0.0           | ND | 0.0 |
| 10.8          | 0.5 | 10.7 |
| 9.3           | 2.6 | <10xMDL | 9.6 |
| 3.6           | 0.8 | <10xMDL | 3.6 |
| J  | ND | 1.4 |
| 0.0 | ND | 1.0 |
| 4.3 | 0.2 | <10xMDL | 4.3 |
| 6.9 | 12.4 | 6.1 |
| 2.0 | 23.6 | <10xMDL | 2.6 |
| 0.0 | ND | 1.7 |
| 0.0 | ND | 0.0 |
| 0.0 | ND | 0.0 |
| 10.0 | 2.6 | 9.7 |
| 5.8 | 10.8 | 5.2 |
| 7.9 | 9.5 | 7.2 |
| 7.1 | 6.4 | <10xMDL | 6.6 |
| 1.4 | 2.8 | <10xMDL | 1.4 |
| 7.7 | 1.7 | 7.9 |
| 0.0 | ND | 0.0 |
| 8.2 | 2.1 | 8.1 |
| 1.5 | 109.6 Q | <10xMDL | 5.2 |
| 0.7 | J | 3.1 |
| 0.4 | 103.7 Q | <10xMDL | 1.2 |
| 0.0 | ND | 0.6 |
| 2.1 | 36.4 Q | <10xMDL | 3.0 |

Average %RPD  26.9
| Matrix Spike | Robeson County 1_May 20: |
|--------------|--------------------------|
| 19           | %                        |
|              | Dry                      |
|              | GCMS                     |
|              | 07/31/19                 |

| % Recovery |
|------------|
| 90.2       |
| 79.6       |
| 76.0       |
| 82.0       |
| 91.8       |

| Concentration |
|---------------|
| NA            |
| NA            |
| NA            |

| % Recovery |
|------------|
| 43.5       |

J

| 106.1 |
| 88.5  |
| 88.0  |
| 87.1  |
| 74.5  |
| 93.9  |

J

| 89.3  |
| 111.2 |
| 106.0 |
| J          | J          |
|------------|------------|
| 77.0       | 93.9       |

| ND         | ND         |
|------------|------------|
| 84.6       | 116.4      |
| 102.2      | 111.5      |
| 85.3       | 133.9      |

| ND         | 101.8      |
|------------|------------|
| 107.5      | 43.5       |
| 56.5       | 77.4       |
| 79.5       | 78.1       |

**Average %Recovery**  89.5
Supplemental Table 7: QC Data for Metals

| ID     | 17075 |
|--------|-------|
| SDG    | Soil  |
| Matrix | Soil  |
| Receive Date |           |
| Digestion Batch | SD-0472 |
| Sample Type | Blank |
| Digestion Date | 8/28/2019 |
| Analysis Date | 9/2/2019 |
| Digestion Dry Wt(g) | 1.00 |

|        | Reporting Limit | ICP-MS | Conc.(ug/g) | Conc.(ug/g) | QUAL | Spike (ug) |
|--------|-----------------|--------|-------------|-------------|------|------------|
| Alum   | 50.00           |        | 17.51       | J           | 200.00 |
| Antim  | 0.10            | 0.08   | J           | 50.00       |
| Arsen  | 1.00            | 0.01   | J           | 200.00      |
| Barai  | 5.00            | 0.00   | ND          | 200.00      |
| Beryl  | 0.10            | 0.00   | J           | 5.00        |
| Cadmi  | 0.10            | 0.00   | J           | 5.00        |
| Chrom  | 5.00            | 0.00   | ND          | 20.00       |
| Cobal  | 0.10            | 0.00   | ND          | 50.00       |
| Copper | 1.00            | 0.03   | J           | 25.00       |
| Iron   | 50.00           | 405.50 | 100.00      |
| Lead   | 1.00            | 0.03   | J           | 50.00       |
| Lithiu | 5.00            | 0.00   | ND          | 20.00       |
| Mangan | 15.00           | 0.00   | ND          | 50.00       |
| Nickel | 0.10            | 0.00   | ND          | 50.00       |
| Seleni | 0.20            | 0.02   | J           | 200.00      |
| Silver | 0.05            | 0.01   | J           | 5.00        |
| Stront | 0.10            | 0.07   | J           | na          |
| Zinc   | 1.00            | 0.17   | J           | 50.00       |
| Magnes | 50.00           | 60.53  | na          |
| Tin    | 0.10            | 1.36   | na          |
| Thall  | 0.10            | 0.00   | J           | 200.00      |
| Vanad  | 0.10            | 0.00   | ND          | 50.00       |
| Mercur | 0.002           | 0.002  | J           | 1           |
| Conc. (ug/g) | QUAL | % Recov | Recov | QUAL | Conc. (ug/g) |
|-------------|------|---------|-------|------|-------------|
| 195.50      |      | 97.75   |       |      | 743.50      |
| 45.83       |      | 91.66   |       |      | 0.02        |
| 186.80      |      | 93.40   |       |      | 0.19        |
| 195.80      |      | 97.90   |       |      | 2.94        |
| 5.08        |      | 101.68  |       |      | 0.02        |
| 4.68        |      | 93.58   |       |      | 0.02        |
| 20.18       |      | 100.90  |       |      | 1.52        |
| 50.99       |      | 101.98  |       |      | 0.10        |
| 25.20       |      | 100.80  |       |      | 3.15        |
| 713.60      |      |         | invalid|      | 1472.00     |
| 49.71       |      | 99.42   |       |      | 3.60        |
| 21.00       |      | 105.00  |       |      | 0.43        |
| 48.19       |      | 96.38   |       |      | 7.30        |
| 51.13       |      | 102.26  |       |      | 0.43        |
| 187.70      |      | 93.85   |       |      | 0.15        |
| 5.83        |      | 116.68  |       |      | 0.01        |
| na          |      | na      |       |      | 5.06        |
| 47.37       |      | 94.74   |       |      | 12.54       |
| na          |      | na      |       |      | 165.90      |
| na          |      | na      |       |      | 0.77        |
| 201.20      |      | 100.60  |       |      | 0.00        |
| 51.13       |      | 102.26  |       |      | 1.74        |
| 0.101       |      | 101     |       |      | 0.003       |
# New Hanover 4_Sep 2018

T7554

Soil

SD-0472

**DUP**

8/28/2019

9/2/2019

1.015

## Duplicate Concentrations (ug/g)

| QUAL | Conc. (ug/g) | QUAL | RPD | QUAL |
|------|-------------|------|-----|------|
|     |             |      |     |      |
| J   | 863.90      | J    | 3.75|      |
| J   | 0.03        | J    | 7.94|      |
| J   | 0.27        | J    | 9.34|      |
| J   | 2.76        | J    | 1.55|      |
| J   | 0.02        | J    | 4.30|      |
| J   | 0.03        | J    | 10.57|     |
| J   | 1.50        | J    | 0.25|      |
|     | 0.13        |      | 5.66|      |
|     | 4.81        |      | 10.44|     |
|     | 1494.00     |      | 0.37|      |
|     | 4.08        |      | 3.13|      |
| J   | 0.51        | J    | 4.23|      |
| J   | 8.44        | J    | 3.62|      |
| J   | 0.48        |      | 3.10|      |
| J   | 0.24        |      | 11.95|     |
| J   | 0.01        | J    | 3.47|      |
|     | 5.73        |      | 3.14|      |
|     | 14.28       |      | 3.24|      |
|     | 168.80      |      | 0.43|      |
|     | 0.88        |      | 3.41|      |
| J   | 0.01        | J    | 5.51|      |
|     | 2.37        |      | 7.74|      |
|     | 0.005       |      | 0.50|      |
New Hanover 4_Sep 2018
T7554
Soil
Soil
SD-0472
SPIKE
8/28/2019
9/2/2019
1.001
SD-0472
SRM-SAND-B
8/28/2019
9/2/2019
1.055

| Conc.(ug/g) | QUAL | % Recov | Recov | QUAL | Conc.(ug/g) |
|------------|------|---------|-------|------|-------------|
| 1223.00    | in valid | 6663.00 | 1.30  |
| 34.10      | 68.23 | 1.30    |
| 183.20     | 91.60 | 23.36   |
| 191.90     | 94.58 | 10.97   |
| 4.89       | 97.43 | 1.83    |
| 4.70       | 93.75 | 104.80  |
| 20.89      | 96.97 | 45.44   |
| 48.98      | 97.86 | 10.36   |
| 28.63      | 102.03| 47.74   |
| 1652.00    | in valid | 10690.00 | 111.10 |
| 52.72      | 98.35 | na      |
| 20.45      | 100.18| na      |
| 52.69      | 90.87 | 248.40  |
| 49.26      | 97.76 | 36.26   |
| 183.50     | 91.77 | 50.47   |
| 5.87       | 117.33| 3.38    |
| na         | na    | 38.31   |
| 61.52      | 98.06 | 554.70  |
| na         | na    | 960.90  |
| na         | na    | 19.62   |
| 196.60     | 98.40 | 45.52   |
| 50.12      | 96.86 | 50.99   |
| 0.083      | 83.522| 0.074   |
| QUAL | % Recov | Recov |
|------|---------|-------|
|      |         | QUAL  |
| 103.62 |       |       |
| 50.12  |       |       |
| 91.25  |       |       |
| 106.50 |       |       |
| 76.25  |       |       |
| 94.41  |       |       |
| 93.31  |       |       |
| 87.06  |       |       |
| 85.25  |       |       |
| 100.85 |       |       |
| 82.30  |       |       |
| na     |       |       |
| 85.07  |       |       |
| 85.52  |       |       |
| 80.88  |       |       |
| 102.33 |       |       |
| 103.54 |       |       |
| 88.33  |       |       |
| 89.80  |       |       |
| 98.10  |       |       |
| 79.72  |       |       |
| 82.24  |       |       |
| 92.5   |       |       |
**Supplemental Table 8: Cook's Distance results for each sample and metal.**

| ID  | Short_ID | Aluminum | Antimony | cooksd | outlier | Y_Column | Arsenic | cooksd |
|-----|----------|----------|----------|--------|---------|----------|---------|--------|
| 1   | BL1 [Sep-1] | 1276     | NA       | NA     | NA      | Antimony | NA      | NA     |
| 2   | BL2 [Sep-1] | 5435     | NA       | NA     | NA      | Antimony | NA      | NA     |
| 3   | BL2 [Jan-1] | 10920    | NA       | NA     | Antimony | 1.621    | 0.011487| NA     |
| 4   | BL2 [May-1] | 6292     | NA       | NA     | Antimony | NA       | NA     |
| 5   | BL3 [Jan-1] | 4139     | NA       | NA     | Antimony | NA       | NA     |
| 6   | BL3 [May-1] | 2516     | NA       | NA     | Antimony | NA       | NA     |
| 7   | RO1 [Sep-1] | 6364     | NA       | NA     | Antimony | 1.07     | 0.063914| NA     |
| 8   | RO1 [Jan-1] | 3960     | NA       | NA     | Antimony | 2.425    | 0.0943 | NA     |
| 9   | RO1 [May-1] | 5250     | NA       | NA     | Antimony | NA       | NA     |
| 10  | RO2 [Sep-1] | 4014     | NA       | NA     | Antimony | 1.454    | 0.01825| NA     |
| 11  | RO2 [Jan-1] | 6642     | NA       | NA     | Antimony | 1.041    | 0.069225| NA     |
| 12  | RO2 [May-1] | 11670    | NA       | NA     | Antimony | 1.702    | 0.005153| NA     |
| 13  | RO3 [Sep-1] | 13120    | NA       | NA     | Antimony | 1.96     | 0.016192| NA     |
| 14  | RO3 [Jan-1] | 11740    | NA       | NA     | Antimony | 1.807    | 1.03E-06| NA     |
| 15  | RO3 [May-1] | 8254     | NA       | NA     | Antimony | 2.636    | 0.112957| NA     |
| 16  | NH1 [Sep-1] | 1508     | 0.2327   | 167.458| 1       | Antimony | NA      | NA     |
| 17  | NH1 [Jan-1] | 888.5    | NA       | NA     | Antimony | NA       | NA     |
| 18  | NH1 [May-1] | 3037     | 0.1779   | 0.431088| 1       | Antimony | 2.401   | 0.120545| NA     |
| 19  | NH2 [Sep-1] | 3160     | 0.1273   | 0.586916| 1       | Antimony | 2.442   | 0.13021| NA     |
| 20  | NH3 [Sep-1] | 1561     | NA       | NA     | Antimony | 1.402    | 0.052788| NA     |
| 21  | NH4 [Sep-1] | 743.5    | NA       | NA     | Antimony | NA       | NA     |
| 22  | NH4 [May-1] | 2233     | NA       | NA     | Antimony | 1.071    | 0.166314| NA     |
| 23  | WA1 [Sep-1] | 6117     | NA       | NA     | Antimony | NA       | NA     |
| 24  | WA1 [Jan-1] | 6286     | NA       | NA     | Antimony | NA       | NA     |
| 25  | WA1 [May-1] | 2924     | NA       | NA     | Antimony | NA       | NA     |
| 26  | WA2 [Jan-1] | 1486     | NA       | NA     | Antimony | NA       | NA     |
| outlier | Y_Column | Barium  | cooksD | outlier | Y_Column | Beryllium | cooksD | outlier |
|---------|----------|---------|--------|---------|----------|-----------|--------|---------|
| NA      | Arsenic  | 6.37    | 0.044992 | NA      | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 9.077   | 0.006341 | 0       | Barium   | 0.1239    | 0.044753 | 0       |
| 0       | Arsenic  | 11.18   | 0.002087 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 13.64   | 0.001366 | 0       | Barium   | 0.1182    | 0.374628 | 1       |
| NA      | Arsenic  | 5.556   | 0.015504 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 23.74   | 0.000715 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 15.78   | 0.000319 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 7.813   | 0.011669 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 13.88   | 0.001679 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 5.487   | 0.016276 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 18.86   | 0.000135 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 15.86   | 0.003206 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 13.16   | 0.001309 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 14.71   | 0.001224 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 20.59   | 0.002559 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 91.17   | 0.773076 | 1       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 5.776   | 0.057593 | 0       | Barium   | NA        | NA     | NA      |
| 0       | Arsenic  | 46.43   | 0.065325 | 0       | Barium   | 0.1184    | 0.10307 | 0       |
| 0       | Arsenic  | 23.62   | 0.000826 | 0       | Barium   | 0.1035    | 0.024954 | 0       |
| 0       | Arsenic  | 14.47   | 0.009326 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 23.89   | 0.000718 | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 19.36   | 0.000129 | 0       | Barium   | 0.1562    | 0.000921 | 0       |
| NA      | Arsenic  | 31.13   | 0.013291 | 0       | Barium   | 0.2081    | 0.664088 | 1       |
| NA      | Arsenic  | 9.25    | 0.01394  | 0       | Barium   | NA        | NA     | NA      |
| NA      | Arsenic  | 10      | 0.024285 | 0       | Barium   | NA        | NA     | NA      |
| Beryllium | Cadmium | outlier | Chromium | Cadmium | outlier | Chromium |
|-----------|---------|---------|----------|---------|---------|----------|
| NA        | NA      | NA      | NA       | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | 7.066   | 0.001979| 0         |
| NA        | NA      | NA      | Cadmium  | 5.532   | 0.02709 | 0         |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| 0.1059    | 0.073592| 0       | Cadmium  | 5.127   | 0.050481| 0         |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | 5.143   | 0.070199| 0         |
| NA        | NA      | NA      | Cadmium  | 5.067   | 0.054799| 0         |
| NA        | NA      | NA      | Cadmium  | 7.78    | 0.057654| 0         |
| NA        | NA      | NA      | Cadmium  | 7.559   | 0.044078| 0         |
| 0.1663    | 0.133133| 0       | Cadmium  | 7.216   | 0.006776| 0         |
| NA        | NA      | NA      | Cadmium  | 7.093   | 0.003127| 0         |
| 0.2776    | 0.002045| 0       | Cadmium  | 6.549   | 0.002378| 0         |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| 0.6114    | 0.427373| 1       | Cadmium  | 10.01   | 0.650232| 1         |
| 0.2645    | 0.000192| 0       | Cadmium  | 7.079   | 0.01807 | 0         |
| 0.2052    | 0.050899| 0       | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| 0.1649    | 0.069572| 0       | Cadmium  | 6.39    | 9.48E-05| 0         |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | 5.723   | 0.018551| 0         |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| NA        | NA      | NA      | Cadmium  | NA      | NA      | NA       |
| Cobalt  | cooksd | outlier | Y_Column | Copper  | cooksd | outlier | Y_Column  | Iron  |
|---------|--------|---------|----------|---------|--------|---------|----------|-------|
| 0.2592 | 0.025984 | 0 | Cobalt  | 1.825 | 0.035704 | 0 | Copper  | 4946 |
| 0.6202 | 0.00158 | 0 | Cobalt  | 2.719 | 0.002621 | 0 | Copper  | 7378 |
| NA     | NA     | NA     | Cobalt  | 1.561 | 5.17E-05 | 0 | Copper  | 12660 |
| 0.3106 | 0.005419 | 0 | Cobalt  | 2.601 | 0.001917 | 0 | Copper  | 9451 |
| NA     | NA     | NA     | Cobalt  | 1.024 | 5.17E-05 | 0 | Copper  | 5735 |
| 0.3597 | 0.006582 | 0 | Cobalt  | 3.109 | 0.011121 | 0 | Copper  | 5060 |
| 0.213  | 0.012571 | 0 | Cobalt  | 2.501 | 0.002017 | 0 | Copper  | 6571 |
| 0.1066 | 0.024119 | 0 | Cobalt  | 1.46  | 0.009652 | 0 | Copper  | 4930 |
| 0.1827 | 0.013982 | 0 | Cobalt  | 1.859 | 0.004724 | 0 | Copper  | 5916 |
| 0.1052 | 0.024013 | 0 | Cobalt  | 1.045 | 0.010963 | 0 | Copper  | 5686 |
| 0.3232 | 0.004905 | 0 | Cobalt  | 2.519 | 0.00174  | 0 | Copper  | 7393 |
| 0.2513 | 0.030592 | 0 | Cobalt  | 1.72  | 0.001576 | 0 | Copper  | 10680 |
| 0.2387 | 0.048846 | 0 | Cobalt  | 1.846 | 0.014026 | 0 | Copper  | 13260 |
| 0.2556 | 0.029641 | 0 | Cobalt  | 1.732 | 0.00185 | 0 | Copper  | 12330 |
| 0.469  | 1.67E-05 | 0 | Cobalt  | 2.052 | 0.001117 | 0 | Copper  | 9346 |
| 0.5888 | 0.000273 | 0 | Cobalt  | 13.72 | 0.017526 | 0 | Copper  | 7139 |
| 0.3487 | 0.015282 | 0 | Cobalt  | 2.494 | 0.036404 | 0 | Copper  | 4519 |
| 1.172  | 0.066412 | 0 | Cobalt  | 23.78 | 0.113489 | 0 | Copper  | 8811 |
| 0.8627 | 0.016993 | 0 | Cobalt  | 21.21 | 0.079095 | 0 | Copper  | 9202 |
| 0.7486 | 0.009682 | 0 | Cobalt  | 6.245 | 0.003672 | 0 | Copper  | 7648 |
| 0.1006 | 0.074961 | 0 | Cobalt  | 3.149 | 0.03219 | 0 | Copper  | 3014 |
| 0.7929 | 0.012553 | 0 | Cobalt  | 36.02 | 0.419935 | 1 | Copper  | 7617 |
| 1.502  | 0.145287 | 0 | Cobalt  | 2.608 | 0.002069 | 0 | Copper  | 8114 |
| 1.6    | 0.182301 | 1 | Cobalt  | 3.716 | 0.000529 | 0 | Copper  | 11520 |
| 0.5501 | 1.74E-05 | 0 | Cobalt  | 2.63  | 0.01059 | 0 | Copper  | 6285 |
| 0.45   | 0.003072 | 0 | Cobalt  | 2.51  | 0.025738 | 0 | Copper  | 6016 |
| cooks | outlier | Y_Column | Lead | cooks | outlier | Y_Column | Lithium | cooks |
|-------|---------|----------|------|-------|---------|----------|---------|-------|
| 0.004438 | 0 | Iron | 2.858 | 0.03655 | 0 | Lead | NA | NA |
| 0.002937 | 0 | Iron | 6.283 | 0.0047 | 0 | Lead | NA | NA |
| 0.069597 | 0 | Iron | 5.344 | 0.004142 | 0 | Lead | NA | NA |
| 0.008587 | 0 | Iron | 7.819 | 0.002959 | 0 | Lead | NA | NA |
| 0.018475 | 0 | Iron | 2.614 | 0.011328 | 0 | Lead | NA | NA |
| 0.016519 | 0 | Iron | 10.32 | 0.006801 | 0 | Lead | NA | NA |
| 0.036871 | 0 | Iron | 32.04 | 0.01339 | 0 | Lead | NA | NA |
| 0.041808 | 0 | Iron | 7.245 | 0.006033 | 0 | Lead | NA | NA |
| 0.031302 | 0 | Iron | 10.35 | 0.001858 | 0 | Lead | NA | NA |
| 0.018132 | 0 | Iron | 4.253 | 0.009475 | 0 | Lead | NA | NA |
| 0.017517 | 0 | Iron | 17.18 | 0.000206 | 0 | Lead | NA | NA |
| 0.062064 | 0 | Iron | 16.86 | 0.016418 | 0 | Lead | 5.627 | 0.553298 |
| 0.027949 | 0 | Iron | 5.175 | 0.001604 | 0 | Lead | 5.354 | 408.8673 |
| 0.012847 | 0 | Iron | 4.787 | 0.004384 | 0 | Lead | 5.309 | 0.454055 |
| 0.001977 | 0 | Iron | 8.794 | 0.001604 | 0 | Lead | NA | NA |
| 0.044876 | 0 | Iron | 32.58 | 0.011287 | 0 | Lead | NA | NA |
| 0.009877 | 0 | Iron | 3.128 | 0.042551 | 0 | Lead | NA | NA |
| 0.060291 | 0 | Iron | 98.44 | 0.361951 | 1 | Lead | NA | NA |
| 0.075389 | 0 | Iron | 58.48 | 0.085674 | 0 | Lead | NA | NA |
| 0.07483 | 0 | Iron | 50.21 | 0.075592 | 0 | Lead | NA | NA |
| 0.101345 | 0 | Iron | 3.596 | 0.043353 | 0 | Lead | NA | NA |
| 0.037045 | 0 | Iron | 18.84 | 0.000253 | 0 | Lead | NA | NA |
| 0.00068 | 0 | Iron | 22.23 | 0.001914 | 0 | Lead | NA | NA |
| 0.086041 | 0 | Iron | 6.283 | 0.004238 | 0 | Lead | NA | NA |
| 0.000251 | 0 | Iron | 7.085 | 0.009775 | 0 | Lead | NA | NA |
| 0.003942 | 0 | Iron | 3.537 | 0.030799 | 0 | Lead | NA | NA |
| outlier | Y_Column | Magnesium | cooksd | outlier | Y_Column | Manganese | cooksd |
|---------|----------|-----------|--------|---------|----------|-----------|--------|
| NA      | Lithium  | 247.9     | 0.023404 | 0       | Magnesium| 37.24     | 0.069472 | 0      |
| NA      | Lithium  | 236.9     | 0.011828 | 0       | Magnesium| 32.27     | 0.007456 | 0      |
| NA      | Lithium  | 192.4     | 0.089303 | 0       | Magnesium| NA        | NA      | NA     |
| NA      | Lithium  | 250.8     | 0.011372 | 0       | Magnesium| 47.42     | 6.98E-05 | 0      |
| NA      | Lithium  | 128.8     | 0.031795 | 0       | Magnesium| NA        | NA      | NA     |
| NA      | Lithium  | 279.6     | 0.01045  | 0       | Magnesium| 116.9     | 0.102526 | 0      |
| NA      | Lithium  | 548.9     | 0.00697  | 0       | Magnesium| 22.49     | 0.014191 | 0      |
| NA      | Lithium  | 158.3     | 0.026343 | 0       | Magnesium| NA        | NA      | NA     |
| NA      | Lithium  | 267.2     | 0.008109 | 0       | Magnesium| 26.3      | 0.014789 | 0      |
| NA      | Lithium  | 232       | 0.013341 | 0       | Magnesium| NA        | NA      | NA     |
| NA      | Lithium  | 496.3     | 0.002619 | 0       | Magnesium| 32.94     | 0.003488 | 0      |
| 1       | Lithium  | 352.8     | 0.010618 | 0       | Magnesium| 15.09     | 0.001193 | 0      |
| 1       | Lithium  | 442.6     | 0.001252 | 0       | Magnesium| 19.13     | 0.019385 | 0      |
| 1       | Lithium  | 389.5     | 0.002457 | 0       | Magnesium| 15.73     | 0.000509 | 0      |
| NA      | Lithium  | 995.8     | 0.230036 | 1       | Magnesium| 23.26     | 0.006947 | 0      |
| NA      | Lithium  | 571.5     | 0.019152 | 0       | Magnesium| 167.9     | 0.50836  | 1      |
| NA      | Lithium  | 269.6     | 0.020077 | 0       | Magnesium| 28.02     | 0.139404 | 0      |
| NA      | Lithium  | 857.1     | 0.09471  | 0       | Magnesium| 55.82     | 0.001558 | 0      |
| NA      | Lithium  | 498.2     | 0.003178 | 0       | Magnesium| 77.51     | 0.007667 | 0      |
| NA      | Lithium  | 642.5     | 0.03972  | 0       | Magnesium| 35.78     | 0.06297 | 0      |
| NA      | Lithium  | 165.9     | 0.062066 | 0       | Magnesium| NA        | NA      | NA     |
| NA      | Lithium  | 940       | 0.169782 | 1       | Magnesium| 45.43     | 0.019371 | 0      |
| NA      | Lithium  | 430.4     | 5.68E-05 | 0       | Magnesium| 69.79     | 0.013759 | 0      |
| NA      | Lithium  | 569.5     | 0.009212 | 0       | Magnesium| 80.08     | 0.031178 | 0      |
| NA      | Lithium  | 307.5     | 0.005897 | 0       | Magnesium| 61.55     | 0.000101 | 0      |
| NA      | Lithium  | 383.9     | 0.000748 | 0       | Magnesium| 77.54     | 0.002516 | 0      |
| Y_Column | Mercury | cooksd | outlier | Y_Column | Nickel | cooksd | outlier | Y_Column |
|----------|---------|--------|---------|----------|--------|--------|---------|----------|
| Manganese | 0.006  | 0.029527 | 0 | Mercury | 0.2246 | 0.078027 | 0 | Nickel |
| Manganese | 0.011  | 0.006248 | 0 | Mercury | 1.165  | 0.001009 | 0 | Nickel |
| Manganese | 0.022  | 7.51E-05 | 0 | Mercury | 0.3472 | 0.035587 | 0 | Nickel |
| Manganese | 0.009  | 0.009755 | 0 | Mercury | NA     | NA      | NA      | Nickel |
| Manganese | 0.011  | 0.006549 | 0 | Mercury | 0.3625 | 0.022112 | 0 | Nickel |
| Manganese | 0.058  | 0.098653 | 0 | Mercury | 1.495  | 0.000323 | 0 | Nickel |
| Manganese | 0.017  | 0.001585 | 0 | Mercury | 1.188  | 0.000495 | 0 | Nickel |
| Manganese | 0.02   | 0.000262 | 0 | Mercury | 0.7292 | 0.01077  | 0 | Nickel |
| Manganese | 0.017  | 0.001354 | 0 | Mercury | 0.9321 | 0.003926 | 0 | Nickel |
| Manganese | 0.016  | 0.002049 | 0 | Mercury | NA     | NA      | 0        | Nickel |
| Manganese | 0.014  | 0.004123 | 0 | Mercury | 1.142  | 0.000714 | 0 | Nickel |
| Manganese | 0.031  | 0.020775 | 0 | Mercury | 1.562  | 0.029368 | 0 | Nickel |
| Manganese | 0.018  | 0.01054  | 0 | Mercury | 1.387  | 0.035337 | 0 | Nickel |
| Manganese | 0.022  | 0.000114 | 0 | Mercury | 1.227  | 0.005135 | 0 | Nickel |
| Manganese | 0.025  | 0.00062  | 0 | Mercury | 1.433  | 0.001283 | 0 | Nickel |
| Manganese | 0.05   | 0.082444 | 0 | Mercury | 2.883  | 0.048904 | 0 | Nickel |
| Manganese | 0.006  | 0.033535 | 0 | Mercury | 1.285  | 0.007711 | 0 | Nickel |
| Manganese | 0.094  | 0.340787 | 1 | Mercury | 4.938  | 0.24162  | 1 | Nickel |
| Manganese | 0.047  | 0.039402 | 0 | Mercury | 2.696  | 0.026415 | 0 | Nickel |
| Manganese | 0.008  | 0.020637 | 0 | Mercury | 2.687  | 0.033961 | 0 | Nickel |
| Manganese | 0.003  | 0.04956  | 0 | Mercury | 0.4269 | 0.072964 | 0 | Nickel |
| Manganese | 0.014  | 0.005523 | 0 | Mercury | 3.992  | 0.149695 | 0 | Nickel |
| Manganese | 0.028  | 0.001713 | 0 | Mercury | 0.5878 | 0.010658 | 0 | Nickel |
| Manganese | 0.022  | 6.06E-06 | 0 | Mercury | 0.414  | 0.016009 | 0 | Nickel |
| Manganese | 0.006  | 0.017788 | 0 | Mercury | 0.7702 | 0.014511 | 0 | Nickel |
| Manganese | 0.004  | 0.034858 | 0 | Mercury | 0.6958 | 0.032671 | 0 | Nickel |
| Selenium | cooksd | outlier | Y_Column | Silver | cooksd | outlier | Y_Column | Strontium |
|----------|--------|---------|----------|--------|--------|---------|----------|-----------|
| 0.2454   | 0.014471 | 0       | Selenium | NA     | NA     | NA      | Silver   | 2.475     |
| 0.2609   | 0.007377 | 0       | Selenium | NA     | NA     | NA      | Silver   | 2.059     |
| 0.238    | 0.014927 | 0       | Selenium | NA     | NA     | NA      | Silver   | 6.847     |
| 0.3661   | 0.000642 | 0       | Selenium | NA     | NA     | NA      | Silver   | 16.88     |
| NA       | NA     | NA      | Selenium | NA     | NA     | NA      | Silver   | 2.986     |
| 0.2361   | 0.010007 | 0       | Selenium | NA     | NA     | NA      | Silver   | 12.76     |
| 0.4528   | 1.95E-05 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.627     |
| 0.3143   | 0.002527 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.094     |
| 0.2665   | 0.003601 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.45      |
| NA       | NA     | NA      | Selenium | NA     | NA     | NA      | Silver   | 1.052     |
| 0.4213   | 3.79E-05 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.912     |
| 0.7693   | 0.069132 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.888     |
| 0.4024   | 0.00014  | 0       | Selenium | NA     | NA     | NA      | Silver   | 2.519     |
| 0.3124   | 0.00669  | 0       | Selenium | NA     | NA     | NA      | Silver   | 2.386     |
| 0.2623   | 0.005245 | 0       | Selenium | NA     | NA     | NA      | Silver   | 1.556     |
| 0.3175   | 0.0058   | 0       | Selenium | NA     | NA     | NA      | Silver   | 61.24     |
| 0.2405   | 0.017517 | 0       | Selenium | NA     | NA     | NA      | Silver   | 19.5      |
| 2.421    | 0.692376 | 1       | Selenium | 0.1468 | NA     | NA      | Silver   | 23.29     |
| 0.3872   | 0.000723 | 0       | Selenium | NA     | NA     | NA      | Silver   | 19.42     |
| 0.23     | 0.014959 | 0       | Selenium | NA     | NA     | NA      | Silver   | 17.27     |
| NA       | NA     | NA      | Selenium | NA     | NA     | Silver  | 5.057     |
| 0.2878   | 0.006469 | 0       | Selenium | NA     | NA     | NA      | Silver   | 42.53     |
| 0.3452   | 0.001053 | 0       | Selenium | NA     | NA     | NA      | Silver   | 3.941     |
| 0.5198   | 0.000739 | 0       | Selenium | 0.05994 | NA      | NA      | Silver   | 4.998     |
| NA       | NA     | NA      | Selenium | NA     | NA     | Silver  | 2.445     |
| NA       | NA     | NA      | Selenium | NA     | NA     | Silver  | 4.213     |
| cooksd | outlier | Y_Column | Tin     | cooksd | outlier | Y_Column | Vanadium | cooksd |
|--------|---------|----------|---------|--------|---------|----------|----------|--------|
| 0.05189| 0       | Strontium| 0.9087  | 0.012864| 0       | Tin      | 2.926    | 0.053933|
| 0.006578| 0    | Strontium| 0.8736  | 0.0207  | 0       | Tin      | 8.047    | 0.000249|
| 0.020825| 0     | Strontium| 0.5405  | 0.030546| 0       | Tin      | 11.87    | 0.007967|
| 0.010066| 0    | Strontium| 0.2081  | 0.043569| 0       | Tin      | 10.23    | 0.009323|
| 0.009306| 0    | Strontium| 0.6172  | 0.000522| 0       | Tin      | 5.613    | 0.014513|
| 0.000393| 0    | Strontium| 0.4538  | 0.032891| 0       | Tin      | 6.856    | 0.00505 |
| 0.005495| 0    | Strontium| 0.3837  | 0.011564| 0       | Tin      | 8.007    | 0.005287|
| 0.015036| 0    | Strontium| 0.2569  | 0.053141| 0       | Tin      | 5.488    | 0.014734|
| 0.008197| 0    | Strontium| 0.3154  | 0.02586 | 0       | Tin      | 7.255    | 0.003732|
| 0.014774| 0    | Strontium| 0.6986  | 0.000395| 0       | Tin      | 5.709    | 0.011606|
| 0.004579| 0    | Strontium| 0.2933  | 0.024945| 0       | Tin      | 9.006    | 0.00208 |
| 0.00404 | 0    | Strontium| 0.5643  | 0.072272| 0       | Tin      | 12.73    | 0.00268 |
| 0.033031| 0    | Strontium| 0.5098  | 0.120666| 0       | Tin      | 13.5     | 0.019548|
| 0.006524| 0    | Strontium| 0.5449  | 0.062343| 0       | Tin      | 13.26    | 0.000928|
| 0.002678| 0    | Strontium| 0.4201  | 0.003234| 0       | Tin      | 11.19    | 0.005524|
| 0.524743| 1    | Strontium| 1.365   | 0.228875| 1       | Tin      | 4.725    | 0.003205|
| 0.002223| 0    | Strontium| 1.315   | 0.216273| 1       | Tin      | 4.402    | 0.002087|
| 0.015601| 0    | Strontium| 0.4913  | 0.017397| 0       | Tin      | 13.83    | 0.360492|
| 0.005981| 0    | Strontium| 0.6949  | 1.5E-06 | 0       | Tin      | 9.103    | 0.042118|
| 0.000575| 0    | Strontium| 1.021   | 0.042163| 0       | Tin      | 5.62     | 0.000963|
| 0.047424| 0    | Strontium| 0.7685  | 0.000454| 0       | Tin      | 1.737    | 0.119297|
| 0.15629 | 1    | Strontium| 0.3978  | 0.056086| 0       | Tin      | 8.647    | 0.066489|
| 0.002578| 0    | Strontium| 0.3912  | 0.011313| 0       | Tin      | 8.067    | 0.002803|
| 0.001317| 0    | Strontium| 0.5655  | 2.17E-05| 0       | Tin      | 10.65    | 0.016368|
| 0.02026 | 0    | Strontium| 0.6697  | 0.00054 | 0       | Tin      | 5.285    | 0.007816|
| 0.034874| 0    | Strontium| 0.9038  | 0.012593| 0       | Tin      | 3.873    | 0.020462|
| outlier | Y_Column | Zinc  | cooksdf outlier | Y_Column |
|---------|----------|-------|-----------------|----------|
| 0       | Vanadium | 12.44 | 0.032913        | 0        |
| 0       | Vanadium | 12.33 | 0.003795        | 0        |
| 0       | Vanadium | 4.052 | 0.000157        | 0        |
| 0       | Vanadium | 12.72 | 0.002667        | 0        |
| 0       | Vanadium | 2.542 | 0.011294        | 0        |
| 0       | Vanadium | 10.5  | 0.017705        | 0        |
| 0       | Vanadium | 20.77 | 0.000912        | 0        |
| 0       | Vanadium | 9.902 | 0.00843         | 0        |
| 0       | Vanadium | 15.82 | 0.003077        | 0        |
| 0       | Vanadium | 6.386 | 0.009893        | 0        |
| 0       | Vanadium | 22.35 | 0.000516        | 0        |
| 0       | Vanadium | 15.95 | 0.006693        | 0        |
| 0       | Vanadium | 12.22 | 0.019278        | 0        |
| 0       | Vanadium | 23.92 | 0.017694        | 0        |
| 0       | Vanadium | 16.74 | 0.000275        | 0        |
| 0       | Vanadium | 102.6 | 0.022624        | 0        |
| 0       | Vanadium | 17.32 | 0.033519        | 0        |
| 1       | Vanadium | 176.1 | 0.122241        | 0        |
| 0       | Vanadium | 87.23 | 0.010109        | 0        |
| 0       | Vanadium | 274.3 | 0.569666        | 1        |
| 0       | Vanadium | 12.54 | 0.044201        | 0        |
| 0       | Vanadium | 95.28 | 0.015313        | 0        |
| 0       | Vanadium | 19.59 | 0.0013          | 0        |
| 0       | Vanadium | 22.35 | 0.000733        | 0        |
| 0       | Vanadium | 16.64 | 0.01025         | 0        |
| 0       | Vanadium | 16.23 | 0.024777        | 0        |
### Supplemental Table 9: Pyrogenic Index (PI) and PAH Source Apportionment Ratios.

| Location           | Date     | Pyrogenic Index | Fanth/Fanth+Pyre |
|--------------------|----------|----------------|------------------|
| Bladen County 1    | 9/19/2018| 6.873366017    | 0.56             |
| Bladen County 2    | 9/19/2018| 0.076667019    |                  |
| Robeson County 1   | 9/21/2018| 1.230711601    | 0.57             |
| Robeson County 2   | 9/21/2018| 0.053651811    | 0.00             |
| Robeson County 3   | 9/21/2018| 2.747979775    | 0.54             |
| New Hanover 1      | 9/22/2018| 7.261122568    | 0.55             |
| New Hanover 2      | 9/22/2018| 5.544656686    | 0.56             |
| New Hanover 3      | 9/22/2018| 2.417385008    | 0.53             |
| New Hanover 4      | 9/22/2018| 4.115972819    | 0.52             |
| Wayne County 1     | 9/23/2018| 3.463263798    | 0.59             |
| Wayne County 2     | 9/23/2018| 10.07076261    | 0.56             |
| Bladen County 2    | 1/29/2019| 0.088235294    | 0.00             |
| Bladen County 3    | 1/29/2019| 0.064941744    | 0.29             |
| Robeson County 1   | 1/29/2019| 4.090841566    | 0.56             |
| Robeson County 2   | 1/29/2019| 0.21560181     | 0.34             |
| Robeson County 3   | 1/29/2019| 6.556415439    | 0.56             |
| New Hanover 1      | 1/30/2019| 7.109966828    | 0.55             |
| New Hanover 4      | 1/30/2019| 5.976717834    | 0.54             |
| Wayne County 1     | 1/30/2019| 2.357564479    | 0.63             |
| Wayne County 2     | 1/30/2019| 1.413025976    | 0.46             |
| Bladen County 2    | 5/9/2019 | 3.401988636    | 0.52             |
| Bladen County 3    | 5/9/2019 | 1.615897573    | 0.52             |
| Robeson County 1   | 5/9/2019 | 2.88793806     | 0.53             |
| Robeson County 2   | 5/9/2019 | 4.108266667    | 0.49             |
| Robeson County 3   | 5/9/2019 | 4.498203593    | 0.54             |
| New Hanover 1      | 5/10/2019| 8.941278628    | 0.55             |
| New Hanover 4      | 5/10/2019| 15.60672925    | 0.54             |
| Wayne County 1     | 5/10/2019| 0.350572614    | 0.37             |
| BaA/BaA+Chrys | Anth/Anth+Phen | Indeno/Indeno+BghiP |
|--------------|---------------|--------------------|
| 0.37         | 0.92          | 0.48               |
| 0.31         | 0.77          | 0.45               |
| 0.46         | 0.80          | 0.49               |
| 0.40         | 0.83          | 0.47               |
| 0.43         | 0.58          | 0.47               |
| 0.32         | 0.69          | 0.44               |
| 0.34         | 0.79          | 0.46               |
| 0.40         | 0.28          | 0.52               |
| 0.38         |               | 0.48               |
| 0.29         | 0.75          | 0.45               |
|              |               | 0.41               |
| 0.48         | 0.81          | 0.50               |
| 0.38         | 0.70          | 0.46               |
| 0.31         | 0.88          | 0.46               |
| 0.33         | 0.59          | 0.56               |
| 0.33         | 0.75          | 0.43               |
| 0.40         |               | 0.42               |
| 0.29         | 0.26          | 0.53               |
| 0.41         | 0.19          | 0.49               |
| 0.37         | 0.37          | 0.45               |
| 0.38         |               | 0.48               |
| 0.45         | 0.28          | 0.50               |
| 0.38         | 0.24          | 0.51               |
| 0.36         | 0.07          | 0.52               |
| Analyte               | Screening Levels (ng/g) | key       | Wayne County 2 January 30, 2019 | Wayne County 2 September 23, 2018 |
|----------------------|-------------------------|-----------|---------------------------------|-----------------------------------|
| Aldrin               | 39 cancer               | 0         | 0                               | 0                                 |
| Alpha-Chlordane      | 1700 cancer             | 0         | 0                               | 0                                 |
| Gamma-Chlordane      | 1700 cancer             | 0         | 0                               | 0                                 |
| Oxychlordane         | 1700 cancer             | 0         | 0                               | 0                                 |
| 2,4'-DDE             | 2000 cancer             | 0         | 0                               | 0                                 |
| 4,4'-DDE             | 2000 cancer             | 0         | 0                               | 0                                 |
| 2,4'-DDT             | 1900 cancer             | 0         | 0                               | 0                                 |
| 4,4'-DDT             | 1900 cancer             | 0         | 0                               | 0                                 |
| Dieldrin             | 34 cancer               | 0         | 0                               | 0                                 |
| Heptachlor           | 130 cancer              | 0         | 0                               | 0                                 |
| Hexachlorobenzene    | 210 cancer              | 0         | 0                               | 0                                 |
| Mirex                | 36 cancer               | 0         | 0                               | 0                                 |
| PCB 128/167          | 120 cancer              | 0         | 0                               | 0                                 |
| PCB 105/127          | 120 cancer              | 0         | 0                               | 0                                 |
| 4,4'-DDD             | 1900 non-cancer         | 0         | 0                               | 0                                 |
| 2,4'-DDD             | 1900 non-cancer         | 0         | 0                               | 0                                 |
| Chlorpyrifos         | 63000 non-cancer        | 0         | 0                               | 0                                 |
| Endosulfan II        | 470000 non-cancer       | 0         | 0                               | 0                                 |
| Endosulfan Sulfate   | 380000 non-cancer       | 0         | 0                               | 0                                 |
| Pentachlorobenzene   | 63000 non-cancer        | 0         | 0                               | 0                                 |
| Wayne Co | Wayne Co | New Hanover | New Hanover | New Hanover | New Hanover | New Hanover | New Hanover | Robeson Co |
|----------|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 0 0.097436 0.025641 0.020513 0.035897 0.182051 0 0.004118 0 0 0 0 | 0 0 0 0 0 0 0.000118 0 0 0 0 | 0 0 0 0 0 0 0 0.000118 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0.0001 0 0 0 0.00005 | 0 0.004 0.00545 0.0006 0.0003 0.00325 0.00035 0 0.00445 | 0 0 0 0 0 0 0.000211 0 0.000947 0 0.004105 0 0 0 0 0.000158 0 0.004474 0.179412 | 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0.010769 0 0 0 0 0 0 0 0 | 0 0.005238 0 0 0.001429 0 0 0 0.01381 0 0 0.016667 | 0 0 0 0 0 0 0 0 0 0 0 0 0.024167 | 0 0 0 0 0 0.001667 0 0 0 0.014167 0 0 0 0 0.001684 0 0 0 0 0 0.002368 0.000158 | 0 0 0 0 0 0 0 0.000105 0 5.26E-05 | 0 0.000208 0 1.27E-05 3.49E-05 0 2.22E-05 0 3.65E-05 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0.00013 1.21E-05 | 0 0 0 0 0 1.32E-06 0 0 0 0 0 0 0 0 0 0.000019 0 | 0 9.52E-06 2.06E-05 0 1.59E-06 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| Robeson  | Robeson  | Robeson  | Robeson  | Robeson  | Bladen    | Bladen    | Bladen    | Bladen    |
|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| 0       | 0.005128 | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0       | 0.000118 | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0       | 0.000118 | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0       | 0        | 0        | 0        | 0.000294 | 0         | 0         | 0         | 0         |
| 0       | 0        | 0        | 0        | 0.0001   | 0         | 0         | 0         | 0         |
| 0.00065 | 0.00045  | 0.00175  | 0.0005   | 0.00715  | 0.00065   | 0.0025    | 0.00065   | 0.0001    |
| 0       | 0        | 0.000263 | 0        | 0        | 0.000211  | 0.000737  | 0         | 0         |
| 0       | 0.000737 | 0.000684 | 0        | 0.003    | 0.000526  | 0.003211  | 0         | 0         |
| 0       | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0       | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0.000263| 0.000158 | 0.000474 | 0        | 0.001316 | 0.000158  | 0.000368  | 0.000895  | 0.000158  |
| 0       | 0        | 0.000105 | 0        | 0.000158 | 0         | 0.000158  | 0         | 5.26E-05  |
| 4.44E-05| 3.97E-05 | 0.000019 | 1.75E-05 | 0.000949 | 3.33E-05  | 3.17E-05  | 0         | 9.52E-06  |
| 5.96E-06| 0        | 7.87E-06 | 0        | 1.68E-05 | 0         | 1.06E-05  | 0         | 0         |
| 0       | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| 0.00263 | 0.00158  | 0.00158  | 0.000474 | 0        | 0.000368  | 0.000895  | 0.000158  | 0         |
| 4.44E-05| 3.97E-05 | 0.000019 | 1.75E-05 | 0.000949 | 3.33E-05  | 3.17E-05  | 0         | 9.52E-06  |
| 5.96E-06| 0        | 7.87E-06 | 0        | 1.68E-05 | 0         | 1.06E-05  | 0         | 0         |
Unity 1
| Sample Location ID | Date       | Naphthalene | Acenaphthene | Acenaphthylene | Fluorene |
|-------------------|------------|-------------|--------------|----------------|----------|
| Bladen County 1   | 9/19/2018  | NA          | 1.592        | NA             | 1.696    | 2.129    |
| Bladen County 2   | 9/19/2018  | NA          | NA           | NA             | NA       |
| Bladen County 2   | 1/29/2019  | 1.65        | NA           | NA             | NA       |
| Bladen County 2   | 1/29/2019  | NA          | 0.176        | NA             | NA       |
| Bladen County 2   | 5/9/2019   | NA          | 0.35         | NA             | NA       |
| Bladen County 2   | 5/9/2019   | 17.391      | 1.02         | NA             | NA       |
| Robeson County 1  | 9/21/2018  | 9.339       | 2.284        | 0.293          | 0.326    |
| Robeson County 2  | 9/21/2018  | 7.554       | 0.436        | NA             | NA       |
| Robeson County 3  | 9/21/2018  | 0.598       | 0.411        | NA             | 0.345    |
| Robeson County 1  | 1/29/2019  | 13.655      | 1.689        | 0.331          | 0.329    |
| Robeson County 2  | 1/29/2019  | NA          | 0.205        | NA             | NA       |
| Robeson County 3  | 1/29/2019  | 1.134       | 0.507        | 2.496          | 3.199    |
| Robeson County 1  | 5/9/2019   | NA          | 0.54         | NA             | NA       |
| Robeson County 2  | 5/9/2019   | 0.433       | 1.52         | NA             | NA       |
| Robeson County 3  | 5/9/2019   | NA          | 0.52         | NA             | NA       |
| New Hanover 1     | 9/22/2018  | NA          | 29.047       | 18.16          | 19.334   |
| New Hanover 2     | 9/22/2018  | NA          | 41.649       | 3.971          | 3.432    |
| New Hanover 3     | 9/22/2018  | 26.896      | 13.903       | 2.161          | 1.924    |
| New Hanover 4     | 9/22/2018  | 2.14        | 1.689        | 0.975          | 0.707    |
| New Hanover 4     | 1/30/2019  | NA          | 3.869        | 2.143          | 2.113    |
| New Hanover 1     | 1/30/2019  | 109.52      | 72.731       | 14.865         | 13.404   |
| New Hanover 4     | 5/10/2019  | 95.13       | 8.53         | 1.45           | NA       |
| New Hanover 1     | 5/10/2019  | 100.54      | 59.74        | 21.37          | 16.17    |
| Wayne County 1    | 9/23/2018  | 55.39       | 86.283       | 3.998          | 3.71     |
| Wayne County 2    | 9/23/2018  | 131.8       | 0.24         | NA             | NA       |
| Wayne County 1    | 1/30/2019  | 40.52       | 6.232        | 0.372          | 1.113    |
| Wayne County 2    | 1/30/2019  | 115.13      | NA           | NA             | NA       |
| Wayne County 1    | 5/10/2019  | 44.05       | 2.94         | 0.61           | 3.01     |
| Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benz.a.ant | Chrysene | TiBenzo.k.j.fli | Benzo.a.py | Indeno.1.2 | 6.135 | 69.017 | 258.249 | 199.451 | 99.055 | 171.104 | 134.237 | 120.982 | 97.851 |
|--------------|------------|--------------|--------|------------|----------|----------------|------------|------------|-------|--------|---------|---------|--------|---------|---------|---------|-------|
| NA           | 0.321      | 0.574        | 1.451  | NA         | 0.517    | NA             | 0.367      | NA         | 0.133 |
| 0.173        | 0.713      | 1.057        | 2.605  | 0.437      | 0.97     | 0.489           | 0.335      | 0.403      |
| 1.16         | 0.61       | 4.04         | 3.71   | 1.42       | 2.13     | 1.91            | 2.18       | 2.2         |
| 4.44         | 1.53       | 9.21         | 8.36   | 3.67       | 8.91     | 2.93            | 6.38       | 7.55        |
| 3.027        | 10.298     | 31.452       | 24.052 | 9.757      | 21.958   | 20.655          | 11.259     | 15.264      |
| 0.471        | 0.468      | 0.906        | 1.323  | 0.447      | 0.909    | 0.636           | 0.31       | 0.594       |
| 1.383        | 5.679      | 23.387       | 19.759 | 12.32      | 14.6     | 12.743          | 7.249      | 6.556       |
| 2.182        | 6.499      | 24.573       | 19.249 | 7.616      | 18.455   | 19.339          | 10.098     | 16.033      |
| 0.188        | 0.884      | 1.835        | 3.529  | 0.611      | 1.575    | 1.19            | 0.571      | 0.965       |
| 13.43        | 58.606     | 153.735      | 123.223 | 73.419    | 80.326   | 48.987          | 41.724     | 21.972      |
| 4.37         | 10.7       | 9.58         | 4.26   | 6.05       | 5.16     | 6.62            | 7.85       |
| 2.95         | 1.71       | 10.31        | 10.57  | 4.09       | 6.85     | 4.12            | 6.56       | 8.14        |
| 2.23         | 0.85       | 7.02         | 6.02   | 2.25       | 3.65     | 2.44            | 3          | 3.76        |
| 84.32        | 424.486    | 1250.582     | 1015.135 | 533.851   | 813.438  | 647.402         | 625.209    | 455.908     |
| 55.903       | 77.769     | 373.163      | 296.22 | 180.827    | 235.203  | 201.541         | 159.493    | 124.145     |
| 26.187       | 58.567     | 135.92       | 118.563 | 53.098    | 113.833  | 87.769          | 65.997     | 59.401      |
| 2.974        | 11.221     | 37.214       | 34.2   | 14.068     | 27.587   | 28.425          | 23.133     | 24.421      |
| 7.89         | 57.482     | 177.302      | 153.697 | 57.931    | 131.462  | 116.479         | 95.487     | 95.623      |
| 135.746      | 320.534    | 1003.686     | 831.484 | 440.931   | 713.509  | 588.146         | 545.158    | 438.407     |
| 56.65        | 17.83      | 310.62       | 269.55 | 124.72     | 199.35   | 184.41          | 199.94     | 314.5       |
| 476.37       | 188.69     | 1487.51      | 1221.74 | 651.14    | 785.83   | 556.1           | 747.82     | 950.36      |
| 139.09       | 54.893     | 252.402      | 176.124 | 144.651   | 218.678  | 276.019         | 73.105     | 123.141     |
| 0.365        | 2.001      | 6.957        | 5.431  | 3.336      | 5.541    | 4.504           | 3.593      | 2.982       |
| 11.04        | 15.709     | 56.02        | 32.388 | 21.332     | 43.628   | 44.202          | 6.42       | 25.789      |
| 1.203        | 3.683      | 18.308       | 21.775 | 8.179      | 16.861   | 13.482          | 11.341     | 10.141      |
| 128.99       | 9.68       | 45.34        | 76.43  | 15.62      | 27.65    | 16.35           | 18.75      | 30.29       |
| Compound                          | CRisk | HI.RSL  | BaPeq.TEF.EPA2010 | BaPeq.TEF.Nisbet1992 | BaPeq.TEF.EPA1993 | 0.006945 | 2.538902 |
|----------------------------------|-------|---------|-------------------|----------------------|-------------------|-----------|----------|
| Dibenzo.a.h.anthracene           | 23.928| 15.95   | 107.743           | 279.2792             | 167.7091          | 0.006945 | 2.538902 |
| Benzo.b.fluoranthene             | NA    | NA      | 0.206             | 0.025765             | 0.013817          | 0.108784 | 1.06E-06 |
| Benzo.g.h.i.perylene             | NA    | NA      | 0.009367          | 0.000367             | 0.006638          | 2.36E-06 | 8.52E-05 |
| 0.97 NA                          | 0.264 | 0.529   | 0.520431          | 0.45126              | 0.862801          | 2.06E-05 | 0.004731 |
| 3.308                            | 2.99   | 2.79956 | 2.56323           | 3.23841              | 0.000125          | 2.52451  |          |
| 3.018                            | 6.58   | 12.85562| 8.51021           | 19.1174              | 0.000378          | 0.116869 |          |
| 0.118                            | 0.342 | 0.859   | 0.12645           | 0.565069             | 2.016771          | 2.48E+05 | 0.01024  |
| 0.725                            | 0.876 | 19.57   | 31.90165          | 15.98235             | 0.000594          | 0.282651 |          |
| 0.256                            | 1.381 | 2.204457| 1.030775          | 3.934779             | 0.0002041         | 0.84703  |          |
| 6.588                            | 21.643| 22.018  | 93.17332          | 163.19412            | 0.002456          | 0.077484 |          |
| 1.04 NA                          | 8.06   | 8.52329 | 7.88865           | 9.70984              | 0.000378          | 0.123683 |          |
| 4.15                             | 9.88   | 13.60518| 8.87105           | 20.0712              | 0.000375          | 0.123683 |          |
| 111.966                          | 65.899 | 510.156 | 1375.242          | 2141.67584            | 0.035859          | 12.5022  |          |
| 39.389                           | 8.457  | 137.839 | 413.2174          | 665.664271            | 0.009198          | 3.756522 |          |
| 18.96                            | 1.627  | 75.081  | 183.7869          | 297.241969            | 0.003819          | 1.67079  |          |
| 4.955                            | 0.794  | 29.142  | 55.4382           | 84.692118             | 0.001323          | 0.503984 |          |
| 20.737                           | 14.076 | 112.516 | 230.9445          | 364.234984            | 0.005469          | 2.099496 |          |
| 104.364                          | 45.9   | 524.132 | 1366.08           | 1918.40038            | 0.031302          | 11.23709 |          |
| 36.8 NA                          | 4.15   | 3.94729 | 3.62905           | 4.75035              | 0.000173          | 0.035884 |          |
| 125.64 NA                        | 45.9   | 524.132 | 1366.08           | 1918.40038            | 0.031302          | 11.23709 |          |
| 43.701                           | 5.687  | 111.79  | 351.1304          | 603.56131             | 0.004339          | 3.192095 |          |
| 0.709                            | 0.502  | 3.274   | 8.523353          | 13.235786             | 0.000316          | 0.077485 |          |
| 6.89                             | 3.468  | 20.639  | 51.29655          | 94.522421             | 0.000435          | 0.466332 |          |
| 2.205                            | 1.503  | 13.431  | 26.19267          | 40.615149             | 0.000746          | 0.238115 |          |
| 3.92 NA                          | 28.17  | 45.53237| 27.45215          | 70.33053              | 0.001142          | 0.413931 |          |
e-6
### Supplemental Table 12: Enrichment Factors for metals.

|                | Aluminum     | Antimony | Arsenic | Barium       | Beryllium    |
|----------------|--------------|----------|---------|--------------|--------------|
| NH 1 [Sep-18]  | 0.449411414  | N/A      | N/A     | 11.80423383  | N/A          |
| NH 1 [Jan-19]  | 0.118002523  | N/A      | N/A     | 0.690248566  | N/A          |
| NH 1 [May-19]  | 0.689600363  | N/A      | N/A     | 2.484216158  | 1.001692047  |
| NH 2 [Sep-18]  | 0.941737446  | N/A      | N/A     | 3.058199003  | 0.83535109   |
| NH 3 [Sep-18]  | 0.465206378  | N/A      | N/A     | 1.873502946  | N/A          |
| NH 4 [Sep-18]  | 0.221576516  | N/A      | N/A     | N/A          | N/A          |
| NH 4 [Jan-19]  | 0.644265888  | N/A      | 2.496607033 | 8.695028681  | N/A          |
| NH 4 [May-19]  | 0.507039055  | N/A      | N/A     | 1.278223649  | N/A          |
| Cadmium | Chromium | Cobalt      | Copper         | Iron           | Lead           | Lithium         |
|---------|----------|-------------|----------------|----------------|----------------|-----------------|
| N/A     | N/A      | 1.339094837 | 6.038732394    | 1.158552418    | 7.128322941    | N/A             |
| N/A     | N/A      | N/A         | 1.597693786    | 0.491329166    | 0.786127168    | N/A             |
| N/A     | 1.809472162 | 3.496941668 | 8.329246935    | 1.214389084    | 10.85396108    | N/A             |
| N/A     | N/A      | 1.962019559 | 9.335387324    | 1.493346316    | 12.795099      | N/A             |
| N/A     | N/A      | 1.702524448 | 2.748679577    | 1.241155469    | 10.98566896    | N/A             |
| N/A     | N/A      | 0.228792358 | 1.386003521    | 0.489126907    | 0.786784816    | N/A             |
| N/A     | 2.035097651 | N/A      | 22.40871236    | 1.529763523    | 26.53933149    | N/A             |
| N/A     | 1.155097614 | 2.365806355 | 12.61646235    | 1.049824271    | 2.077292023    | N/A             |
| Manganese      | Nickel       | Selenium       | Silver         | Strontium | Zinc          | Magnesium     |
|---------------|--------------|----------------|----------------|-----------|---------------|---------------|
| 4.830959574   | 4.149395509  | 1.254197116    | N/A            | 27.01367446 | 8.284214776  | 2.357673267   |
| N/A           | 3.621248415  | 1.010504202    | N/A            | 3.966236144 | 5.25326054   | 1.678704857   |
| 0.679406037   | 3.303010033  | 8.0405181      | N/A            | 1.571524966 | 15.16795866  | 3.231900452   |
| 2.230182708   | 3.88025331   | 1.529527948    | N/A            | 8.566387296 | 7.043197416  | 2.055280528   |
| 1.029492159   | 3.867299942  | 0.908552242    | N/A            | 7.617997353 | 22.14775939  | 2.650577558   |
| N/A           | 0.614421416  | N/A            | N/A            | 2.230701367 | 1.012515139  | 0.684405941   |
| N/A           | 18.28096379  | 2.595798319    | N/A            | 10.26339876 | 87.53412193  | 9.103362391   |
| 0.552945472   | 2.670234114  | 0.955828628    | N/A            | 2.86977058  | 8.206718346  | 3.544494721   |
| Tin     | Thallium | Vanadium | Mercury  |
|---------|----------|----------|----------|
| 1.531728665 N/A | 0.861204775 | 5.882352941 |
| 2.271745703 N/A | 0.503574901 | 0.363636364 |
| 1.484514277 N/A | 1.61886925  | 2.805970149 |
| 0.779778937 N/A | 1.659163401 | 5.529411765 |
| 1.145710599 N/A | 1.024332452 | 0.941176471 |
| 0.862368849 N/A | 0.316595279 | 0.352941176 |
| 2.247559817 N/A | 2.068294915 | 3.090909091 |
| 1.201994259 N/A | 1.012173709 | 0.417910448 |
### Supplemental Table 13: Metals Normalized to Al

| Formula | CAS RN | Name | Sample Location ID | Date   | Time  | Analysis Date | Digestion Dry Wt (g) | Sample Ty | Analyte | Latitude   | Longitude   |
|---------|--------|------|-------------------|--------|-------|---------------|----------------------|-----------|---------|------------|-------------|
| 9/19/18 | 17:19  | 9/2/2019 | 1.144 Soil Metal | 34.83263 | -78.8258 |
| 9/19/18 | 19:25  | 9/2/2019 | 1.024 Soil Metal | 34.74559 | -78.8024 |
| 9/21/18 | 12:25  | 9/2/2019 | 1.111 Soil Metal | 34.72018 | -79.2124 |
| 9/21/18 | 12:49  | 9/2/2019 | 1.053 Soil Metal | 34.72301 | -79.2131 |
| 9/21/18 | 19:25  | 9/2/2019 | 1.084 Soil Metal | 34.72322 | -79.2118 |
| 9/22/18 | 15:06  | 9/2/2019 | 1.015 Soil Metal | 34.21673 | -77.9462 |
| 9/22/18 | 15:30  | 9/2/2019 | 1.044 Soil Metal | 34.20505 | -77.9516 |
| 9/22/18 | 15:49  | 9/2/2019 | 1.197 Soil Metal | 34.19061 | -77.9491 |
| 9/23/18 | 11:01  | 9/2/2019 | 1.247 Soil Metal | 34.17225 | -77.9487 |
| 1/29/19 | 12:18  | 9/2/2019 | 1.067 Soil Metal | 34.72301 | -79.2131 |
| 1/29/19 | 12:18  | 9/2/2019 | 1.098 Soil Metal | 34.72018 | -79.2124 |
| 1/29/19 | 12:20  | 9/2/2019 | 1 Soil Metal     | 34.72322 | -79.2118 |
| 1/29/19 | 15:41  | 9/2/2019 | 1.11 Soil Metal  | 34.83263 | -78.8258 |
| 1/29/19 | 15:41  | 9/2/2019 | 1.242 Soil Metal | 34.83263 | -78.8258 |
| 1/30/19 | 11:20  | 9/2/2019 | 1.023 Soil Metal | 34.17225 | -77.9487 |
| 1/30/19 | 11:45  | 9/2/2019 | 1.037 Soil Metal | 34.2164 | -77.9464 |
| 1/30/19 | 14:10  | 9/2/2019 | 1.006 Soil Metal | 35.36042 | -78.0782 |
| 1/30/19 | 14:30  | 9/2/2019 | 1.071 Soil Metal | 35.36941 | -78.0584 |
| 5/9/19  | 14:20  | 9/2/2019 | 1.014 Soil Metal | 34.72018 | -79.2124 |
| 5/9/19  | 14:20  | 9/2/2019 | 1.089 Soil Metal | 34.72301 | -79.2131 |
| 5/9/19  | 14:20  | 9/2/2019 | 1.007 Soil Metal | 34.72322 | -79.2118 |
| 5/9/19  | 16:35  | 9/2/2019 | 1.173 Soil Metal | 34.83263 | -78.8258 |
| 5/9/19  | 16:35  | 9/2/2019 | 1.003 Soil Metal | 34.83263 | -78.8258 |
| 5/10/19 | 12:10  | 9/2/2019 | 1.072 Soil Metal | 34.17225 | -77.9487 |
| 5/10/19 | 12:40  | 9/2/2019 | 1.026 Soil Metal | 34.2164 | -77.9464 |
| 5/10/19 | 14:57  | 9/2/2019 | 1.078 Soil Metal | 35.36042 | -78.0782 |
|    | Al  | Sb  | As  | Ba  | Be  | Cd  | Cr  | Co  | Cu  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7429-90-5 | 7440-36-0 | 7440-38-2 | 7440-39-3 | 7440-41-7 | 7440-43-9 | 7440-47-3 | 7440-48-4 | 7440-50-8 |
| Aluminum | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper |
| 100 | N/A | N/A | 0.499216 | N/A | N/A | N/A | 0.020313 | 0.143025 |
| 100 | N/A | N/A | 0.16701 | 0.00228 | N/A | N/A | 0.011411 | 0.050028 |
| 100 | N/A | 0.016813 | 0.247957 | N/A | 0.001664 | 0.080563 | 0.003347 | 0.039299 |
| 100 | N/A | 0.036223 | 0.136697 | N/A | 0.128127 | 0.002621 | 0.026034 |
| 100 | N/A | 0.014939 | 0.100305 | N/A | 0.057614 | 0.001819 | 0.1407 |
| 100 | 0.015431 | N/A | 6.045756 | N/A | 0.018408 | 0.434284 | 0.039045 | 0.909814 |
| 100 | 0.004028 | 0.077278 | 0.747468 | 0.003275 | 0.00837 | 0.224019 | 0.027301 | 0.671203 |
| 100 | N/A | 0.089814 | 0.92697 | N/A | 0.013145 | 0.047956 | 0.400064 |
| 100 | N/A | N/A | 0.316495 | 0.002554 | N/A | N/A | 0.013531 | 0.423537 |
| 100 | N/A | 0.015673 | 0.283951 | N/A | 0.076287 | 0.004866 | 0.037925 |
| 100 | N/A | 0.061237 | 0.197298 | N/A | N/A | 0.002692 | 0.036869 |
| 100 | N/A | 0.015392 | 0.125298 | N/A | 0.001417 | 0.061465 | 0.002177 | 0.014753 |
| 100 | N/A | 0.014844 | 0.102381 | N/A | 0.064707 | N/A | 0.014295 |
| 100 | N/A | 0.134235 | N/A | N/A | N/A | N/A | N/A | N/A |
| 100 | 0.012115 | 0.083426 | 1.499897 | 0.003496 | 0.013667 | 0.296434 | 0.033725 | 0.721088 |
| 100 | N/A | N/A | 0.650084 | N/A | N/A | N/A | 0.039246 | 0.280698 |
| 100 | N/A | 0.495227 | 0.003311 | N/A | 0.091044 | 0.025453 | 0.059115 |
| 100 | N/A | 0.672948 | N/A | N/A | N/A | 0.030283 | 0.16891 |
| 100 | N/A | 0.264381 | N/A | N/A | N/A | 0.00348 | 0.03541 |
| 100 | N/A | 0.014584 | 0.135904 | N/A | 0.066667 | 0.002153 | 0.014739 |
| 100 | N/A | 0.031936 | 0.249455 | N/A | 0.085934 | 0.005682 | 0.024861 |
| 100 | N/A | 0.216783 | 0.001879 | N/A | 0.087921 | 0.004936 | 0.041338 |
| 100 | N/A | 0.943561 | N/A | N/A | N/A | N/A | 0.014297 | 0.123569 |
| 100 | N/A | 0.047962 | 1.069861 | N/A | 0.007385 | 0.286162 | 0.035508 | 1.613077 |
| 100 | 0.005858 | 0.079058 | 1.528811 | 0.003899 | 0.020132 | 0.329602 | 0.038591 | 0.78301 |
| 100 | N/A | N/A | 0.316347 | N/A | N/A | N/A | 0.018813 | 0.089945 |
| Iron | Lead | Lithium | Manganese | Nickel | Selenium | Silver | Strontium | Zinc |
|------|------|---------|-----------|--------|----------|--------|-----------|------|
| 387.6176 | 0.223981 | N/A | 2.918495 | 0.017602 | 0.019232 | N/A | 0.193966 | 0.974922 |
| 135.7498 | 0.115603 | N/A | 0.593744 | 0.021435 | 0.0048 | N/A | 0.037884 | 0.226863 |
| 103.2527 | 0.503457 | N/A | 0.353394 | 0.018668 | 0.007115 | N/A | 0.025566 | 0.326367 |
| 141.6542 | 0.105954 | N/A | N/A | N/A | N/A | N/A | 0.026208 | 0.159093 |
| 101.0671 | 0.039444 | 0.040808 | 0.145808 | 0.010572 | 0.003067 | N/A | 0.0192 | 0.09314 |
| 473.4085 | 2.160477 | N/A | 11.13395 | 0.021054 | 0.0048 | N/A | 0.037884 | 0.226863 |
| 291.2025 | 1.850633 | N/A | 2.452848 | 0.085316 | 0.012253 | N/A | 0.061457 | 2.760443 |
| 489.9423 | 3.216528 | N/A | 2.29212 | 0.172133 | 0.014734 | N/A | 1.106342 | 17.527 |
| Mg  | Sn  | TI  | V   | Hg   |
|-----|-----|-----|-----|------|
| 7439-95-4 | 7440-31-5 | 7440-28-0 | 7440-62-2 | 7439-97-6 |

**Magnesiun Tin** | **Thallium** | **Vanadium** | **Mercury** |
|----------------|-------------|-------------|-------------|
| 19.4279 | 0.071215 | N/A          | 0.22931     | 0.00047    |
| 4.358786 | 0.016074 | N/A          | 0.148059    | 0.000202   |
| 8.625079 | 0.006029 | N/A          | 0.125817    | 0.000267   |
| 5.779771 | 0.017404 | N/A          | 0.142227    | 0.000399   |
| 3.373476 | 0.003886 | N/A          | 0.102896    | 0.000137   |
| 37.89788 | 0.090517 | N/A          | 0.313329    | 0.003316   |
| 15.76582 | 0.021991 | N/A          | 0.28807     | 0.001487   |
| 41.15951 | 0.065407 | N/A          | 0.360026    | 0.000512   |
| 22.31338 | 0.103362 | N/A          | 0.233625    | 0.000403   |
| 7.036129 | 0.006395 | N/A          | 0.131878    | 0.000458   |
| 7.472147 | 0.004416 | N/A          | 0.135592    | 0.000211   |
| 3.997475 | 0.006487 | N/A          | 0.138586    | 0.000505   |
| 3.317717 | 0.004641 | N/A          | 0.112947    | 0.000187   |
| 1.761905 | 0.00495  | N/A          | 0.1087      | 0.000201   |
| 3.111863 | 0.014912 | N/A          | 0.135612    | 0.000266   |
| 30.13812 | 0.026819 | N/A          | 0.372707    | 0.001051   |
| 30.34328 | 0.148002 | N/A          | 0.495442    | 0.000675   |
| 9.059815 | 0.000996 | N/A          | 0.169424    | 0.00035    |
| 25.83445 | 0.060821 | N/A          | 0.260633    | 0.000269   |
| 5.089524 | 0.006008 | N/A          | 0.13819     | 0.000324   |
| 3.023136 | 0.004835 | N/A          | 0.109083    | 0.000266   |
| 12.06445 | 0.00509  | N/A          | 0.135571    | 0.000303   |
| 3.986014 | 0.003307 | N/A          | 0.162587    | 0.000143   |
| 11.11288 | 0.018037 | N/A          | 0.272496    | 0.002305   |
| 42.09584 | 0.017815 | N/A          | 0.387237    | 0.000627   |
| 28.22193 | 0.016177 | N/A          | 0.455384    | 0.003095   |
| 10.51642 | 0.022904 | N/A          | 0.180746    | 0.000205   |
## Supplemental Table 14: Coal Ash, Superfund and Toxic Release Inventory Locations

| Name                                      | Type                      | Latitude    | Longitude   |
|-------------------------------------------|---------------------------|-------------|-------------|
| Sutton Steam Electric Plant               | Coal Ash                  | 34.297253   | -77.985077  |
| Lee Steam Electric Plant                  | Coal Ash                  | 35.392527   | -78.071346  |
| Horton Iron a Superfund                    | Superfund                 | 34.2666507  | -77.955935  |
| New Hanover Superfund                     | Superfund                 | 34.27364    | -77.91457   |
| Argos SunnyV                              | Toxic Release             | 34.172      | -77.94168   |
| Sturdy Corp                               | Toxic Release             | 34.21003    | -77.94499   |
| Argos Hwy 42                              | Toxic Release             | 34.320496   | -77.992068  |
| Smithfield - T                            | Toxic Release             | 34.7465     | -78.8061    |
| Campbell Sou                              | Toxic Release             | 34.7724     | -79.325     |
| Silgan Contair                            | Toxic Release             | 34.772816   | -79.326733  |
| Chemours Co                               | Toxic Release             | 34.840301   | -78.838889  |
| Kuraray America                           | Toxic Release             | 34.840301   | -78.838889  |
| Dupont Speci                              | Toxic Release             | 34.845568   | -78.854426  |
| AP Emissions                             | Toxic Release             | 35.3577     | -78.00213   |
| Duke Energy                               | Toxic Release             | 35.37991    | -78.087688  |
| Argos Ready                               | Toxic Release             | 35.38374    | -78.00461   |
| SPX Flow Tec                               | Toxic Release             | 35.39172    | -78.01624   |
**Reporting Checklist**

This checklist is used to ensure the quality, transparency, and reproducibility of published results. We require authors attest that these components have been considered and addressed.

| Exposure Assessment Guiding Principle                                                                 | Yes/No/Not Applicable |
|--------------------------------------------------------------------------------------------------------|-----------------------|
| Has the method to estimate exposure been described clearly?                                              | Yes                   |
| Has the exposure assessment method been validated/evaluated as a proxy for exposure and is its validity or agreement with other methods described? | Yes                   |
| Is the time period over which the exposure assessment method is considered to be a proxy for exposure appropriate for the research question? | Yes                   |
| If exposure is modeled or measured, were all critical potential routes and sources of exposure considered? | Yes                   |
| If exposure is modeled, how does it vary over space and time and are necessary historical data incorporated? | Not applicable        |
| If biomarkers are used as indicators of exposure, could the biomarker measurement have been affected by the outcome (i.e., reverse causality)? | Not applicable        |
| Are the strengths and weaknesses of the exposure approach detailed and discussed?                       | Yes                   |