

# EXHIBIT 49

10302221



REPORT OF MARK H. HERMANSON, Ph.D.  
IN  
ABERNATHY V. MONSANTO

This report shall serve to comply with the recent Scheduling Order of the Calhoun Circuit Court in the above-referenced case and will be a narrative summary of my expected testimony.

My resume has been previously provided and outlines my qualifications.

I understand that Plaintiffs' counsel have provided under separate cover a list of all case-specific documents I have been provided and on which I may rely to some extent. I also understand that counsel has previously provided my sampling results to the Defendant or is providing them with this report. The basis for my opinions is the research I have personally conducted and the sampling I have conducted as well as my education and experience. I may also testify consistent with matters discussed in my deposition given the *Mars Hill* case.

Under my direction, samples were taken in the Anniston area to measure the level of PCBs in the ambient air. Two Graseby Model GPS-1 Polyurethane Foam samplers were used. The samples were collected in two filters so as to provide data on both the vapor and particulate phases. One of the samplers was mounted on the Mars Hill Missionary Baptist Church which was less than a mile east of the Monsanto facility and north of several large landfill cells which I am advised were used by Monsanto over the years to dispose of large quantities of PCB waste. The Mars Hill sampler operated well and was a good site in terms of location, air flow, security, etc.

I designed a protocol for the collection of the samples, and the sampling comported with reasonable scientific methods. I analyzed the samples, and the analyses are reliable and accurate. I will explain to the jury how all of this took place and the various controls put into place to gauge the reliability of the data. For instance, field blanks were used, chain of custody forms maintained, spiked

recoveries calculated, etc. Perhaps of equal importance, I know the data can be fairly compared with data collected at other sites by myself and others in years past.

I personally visited the sites and viewed the terrain, property and structures in question. I formed the opinion then, based on my experience with monitoring the air near other PCB landfills, that the air around the Monsanto plant and landfills would test high for the presence of PCBs. The data has shown this to be correct. There is unquestionably a higher level of PCBs in the air around these neighborhoods than is seen near uncontaminated sites.

The data also show characteristic trends which were to be expected. Most of the PCBs are in the vapor phase as should occur for these semi-volatile substances. Concentrations are higher in warmer weather than in colder weather. The levels in the Mars Hill samples are higher than those at the Carter Street site which is farther from the landfill and the retention basin. This is consistent with what I have seen at other sites I have studied.

What is unusual about the results is the concentration of PCB. Mars Hill showed concentrations during December of 1997 that are more than 40 times the level at a non-contaminated site I sampled along Lake Michigan in December of 1991. It is more than four times the level found in Bloomington, IN in December of 1987. Bloomington had, or has, several Superfund PCB sites in the vicinity. PCB air contamination in Bloomington and the Great Lakes area are well established and considered a pathway of concern. The area around the Mars Hill church is worse.

I have subsequently designed a protocol for the collection of tree bark samples from various sites in the Anniston area. The sampling comported with reasonable scientific methods. I analyzed the samples and the results are reliable accurate. I will explain to the jury how all of this took place and the various controls put into place to gauge the reliability of the data.

The results of the tree bark study indicate that the atmosphere around the Monsanto plant and landfills has been impacted by airborne distribution of PCBs. This data supports and reinforces the earlier data from the air monitors. Moreover, this data suggests that this has been occurring over a number of years.

The remediation performed to date does not appear to have resolved this problem and is not likely to resolve same. The clay and membrane caps on landfills are designed to limit the downward migration of water through the waste cells. While they may impede it, they do not prevent the upward migration of vapors. This is called "off-gassing." Since I understand Monsanto has acknowledged there are millions of pounds of PCBs in the landfills, the landfills will off-gas for many years. Landfilling is not an acceptable means of disposal for large quantities of PCBs such as the PCB manufacturing wastes generated by Monsanto in Anniston. This has been known for many years. High temperature incineration is the only truly effective method to eliminate this PCB pathway.

The operation of the settlement or retention basin adjacent to the church will also cause this pathway to persist. A sizeable fraction of any surface runoff which comes off the landfill and which has picked up PCB-contaminated soil will settle out in the basin. These PCBs then will evaporate into the local atmosphere. Likewise, dissolved PCBs will have an opportunity to volatilize into the atmosphere. This, of course, will be disadvantageous for persons breathing air nearby.

The PCBs in the air around the landfills and the plant will be continuously deposited from the air onto the soil, dust and structures of area property. This pathway will persist even if present PCB levels on the properties and in the soil are remediated because new PCBs will be transported in.

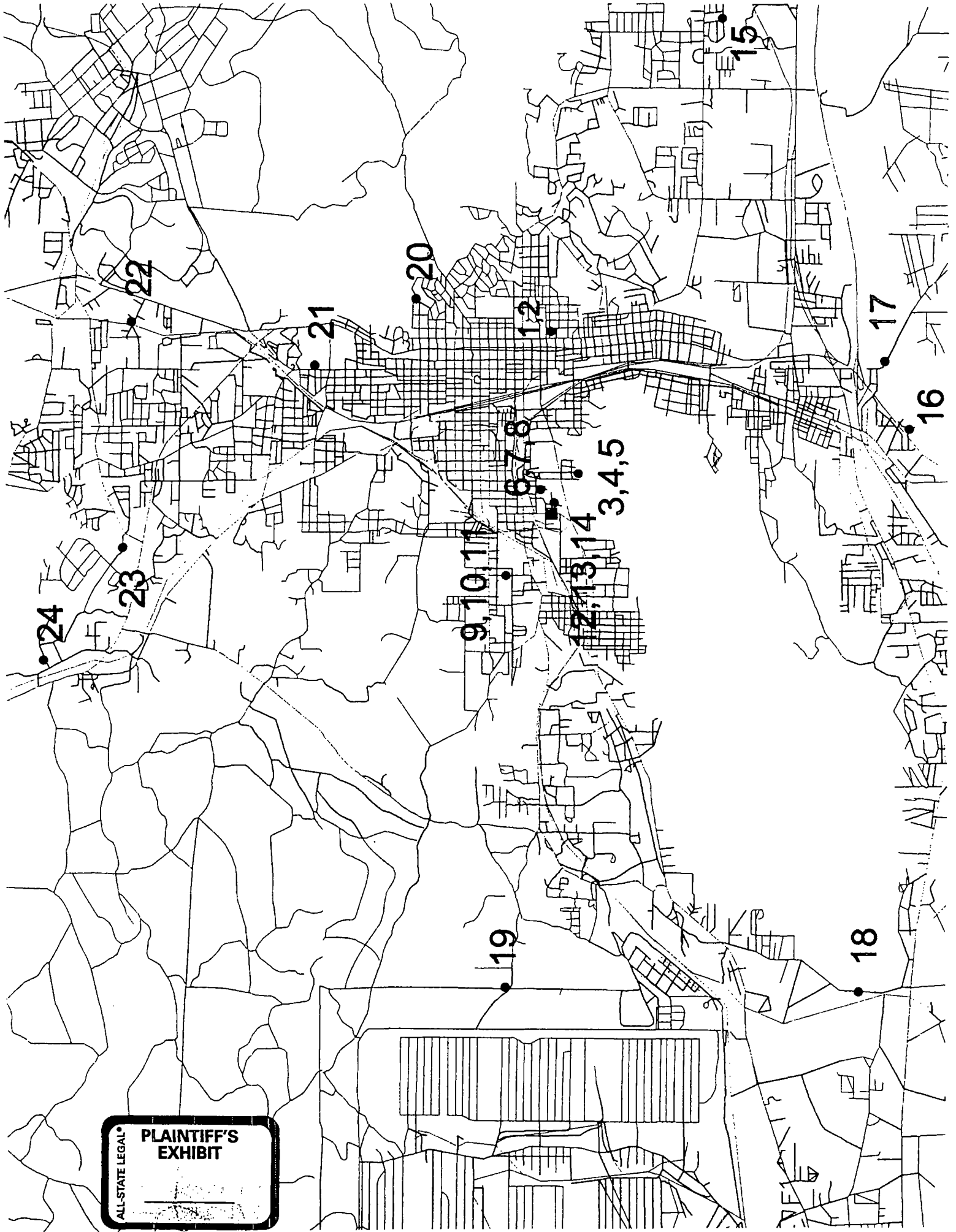
The primary source of the airborne PCBs I have detected in elevated levels is the Monsanto property including the landfills, settling basin, "remediated properties," etc.

If needed, I will also address related points in rebuttal to testimony of Monsanto's witnesses.

*Mark H. Hermanson*  
MARK H. HERMANSON, P.L.D.

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ALL-STATE LEGAL  
**PLAINTIFF'S  
EXHIBIT**

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9, 10, 11

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12, 13, 14

3, 4, 5

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• 18

| SAMPLE | PCB TOTAL | DIST., FT | DIST., MI | ANGLE, DEG | DIRECTION | LATITUDE  | LONGITUDE  |
|--------|-----------|-----------|-----------|------------|-----------|-----------|------------|
| 1      | 40.694    | 8,660     | 1.64      | 90         | E         | 33.652500 | -85.823889 |
| 2      | 24.372    | 8,660     | 1.64      | 90         | E         | 33.652500 | -85.823917 |
| 3      | 165.593   | 2,430     | 0.46      | 135        | SE        | 33.648317 | -85.846014 |
| 4      | 32.025    | 2,430     | 0.46      | 135        | SE        | 33.648317 | -85.846014 |
| 5      | 84.407    | 2,430     | 0.46      | 135        | SE        | 33.648317 | -85.846014 |
| 6      | 72.756    | 1,300     | 0.25      | 71         | ENE       | 33.654167 | -85.848611 |
| 7      | 204.421   | 1,300     | 0.25      | 71         | ENE       | 33.654167 | -85.848639 |
| 8      | 164.314   | 1,300     | 0.25      | 71         | ENE       | 33.654167 | -85.848667 |
| 9      | 62.127    | 3,870     | 0.73      | 321        | WNW       | 33.659444 | -85.861944 |
| 10     | 45.702    | 3,870     | 0.73      | 321        | WNW       | 33.659444 | -85.861972 |
| 11     | 88.804    | 3,870     | 0.73      | 321        | WNW       | 33.659444 | -85.862000 |
| 12     | 926.143   | 550       | 0.10      | 90         | E         | 33.652042 | -85.850626 |
| 13     | 1223.883  | 550       | 0.10      | 90         | E         | 33.652042 | -85.850626 |
| 14     | 2092.584  | 550       | 0.10      | 90         | E         | 33.652042 | -85.850626 |
| 15     | 10.735    | 25,360    | 4.80      | 108        | ESE       | 33.626111 | -85.775000 |
| 16     | 20.464    | 20,680    | 3.92      | 166        | SSE       | 33.596944 | -85.838889 |
| 17     | 113.167   | 20,180    | 3.82      | 155        | SSE       | 33.600833 | -85.828333 |
| 18     | 11.744    | 28,630    | 5.42      | 236        | WSW       | 33.604444 | -85.926667 |
| 19     | 2.344     | 22,700    | 4.30      | 276        | WNW       | 33.659444 | -85.926111 |
| 20     | 3.082     | 12,630    | 2.39      | 59         | ENE       | 33.673333 | -85.818889 |
| 21     | 5.113     | 15,080    | 2.86      | 34         | NNE       | 33.688889 | -85.829167 |
| 22     | 20.473    | 25,170    | 4.77      | 26         | NNE       | 33.716944 | -85.822222 |
| 23     | 5.206     | 24,110    | 4.57      | 356        | NNW       | 33.718333 | -85.857500 |
| 24     | 3.936     | 29,250    | 5.54      | 345        | NNW       | 33.730556 | -85.875000 |



Tree Bark Data

Annitson tree bark data

July 1998

| Site                    | Stewart  |     | Edwards Ave |        |      |        | 610 Montrose |        |           | 1201 Carter |  |
|-------------------------|----------|-----|-------------|--------|------|--------|--------------|--------|-----------|-------------|--|
| Latitude (deg-min-sec)  | 33-39-09 |     |             |        |      |        | 33-39-15     |        |           | 33-39-34    |  |
| Longitude (deg-min-sec) | 85-49-26 |     |             |        |      |        | 85-50-55     |        |           | 85-51-43    |  |
| Sample#                 | 1        | 2   | 3           | 4      | 5    | 6      | 7            | 8      | 9         | 10          |  |
| Type                    | Oak      | Ash | Oak         | Sw gum | Ash  | Locust | Oak          | Ash(?) | Bl Walnut | Sw Gum      |  |
| DBH                     | 301      | 57  | 125.5       | 34     | 52.8 | 56.8   | 66.7         | 114.5  | 210.5     | 133         |  |
| Sample mass, g          | 40       | 23  | 41          | 23.2   | 20.5 | 22     | 22.5         | 21     | 26        | 22          |  |

| IUPAC # | ng/g  | ng/g  | ng/g  | ng/g  | ng/g  | ng/g  | ng/g   | ng/g  | ng/g  | ng/g  |
|---------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 1       | 0.692 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 2.778 |
| 3       | 0.000 | 0.000 | 2.893 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 |
| 4+10    | 0.000 | 0.000 | 0.152 | 0.000 | 0.110 | 0.167 | 0.356  | 0.173 | 0.102 | 0.083 |
| 7       | 0.007 | 0.000 | 0.077 | 0.033 | 0.057 | 0.062 | 0.170  | 0.112 | 0.020 | 0.033 |
| 6       | 0.001 | 1.660 | 0.000 | 0.641 | 0.000 | 1.607 | 1.751  | 0.346 | 1.939 | 0.073 |
| 8+5     | 0.338 | 0.243 | 5.035 | 1.539 | 1.381 | 1.860 | 5.589  | 3.574 | 1.269 | 1.958 |
| 19      | 0.000 | 0.000 | 0.115 | 0.044 | 0.100 | 0.161 | 0.579  | 0.210 | 0.069 | 0.061 |
| 12      | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 |
| 13      | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.033 | 0.123 | 0.000 |
| 18      | 0.796 | 0.360 | 2.360 | 1.002 | 1.735 | 2.432 | 5.403  | 3.662 | 2.688 | 2.199 |
| 17      | 0.212 | 0.000 | 0.805 | 0.282 | 0.560 | 0.761 | 1.937  | 0.941 | 0.819 | 0.546 |
| 24      | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.017 | 0.000 |
| 27      | 0.011 | 0.000 | 0.120 | 0.000 | 0.026 | 0.139 | 0.413  | 0.554 | 0.084 | 0.000 |
| 16      | 0.074 | 0.000 | 0.378 | 0.000 | 0.315 | 0.449 | 0.888  | 0.000 | 0.572 | 0.450 |
| 32      | 0.242 | 0.000 | 1.296 | 0.066 | 0.948 | 1.619 | 3.882  | 3.578 | 0.954 | 0.733 |
| 29      | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.055  | 0.000 | 0.000 | 0.000 |
| 26      | 0.083 | 0.000 | 0.488 | 0.091 | 0.095 | 0.340 | 0.608  | 0.943 | 0.262 | 0.253 |
| 25      | 0.000 | 0.000 | 0.219 | 0.050 | 0.093 | 0.163 | 0.374  | 0.410 | 0.099 | 0.113 |
| 31+28   | 1.770 | 1.218 | 6.022 | 2.072 | 3.975 | 4.696 | 11.709 | 9.695 | 3.416 | 4.709 |
| 21      | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 |
| 33      | 2.060 | 1.187 | 1.781 | 0.536 | 0.944 | 1.218 | 3.195  | 2.631 | 2.272 | 1.479 |
| 53      | 0.000 | 0.000 | 0.329 | 0.093 | 0.200 | 0.291 | 0.957  | 0.594 | 0.165 | 0.055 |
| 51      | 0.013 | 0.000 | 0.087 | 0.000 | 0.000 | 0.082 | 0.293  | 0.415 | 0.055 | 0.023 |
| 22      | 0.468 | 0.106 | 2.250 | 0.557 | 0.823 | 1.426 | 3.686  | 0.000 | 1.346 | 1.217 |
| 45      | 0.056 | 0.000 | 0.356 | 0.101 | 0.214 | 0.351 | 0.990  | 0.000 | 0.322 | 0.152 |

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Tree Bark Data

|         |       |       |       |       |       |       |        |       |       |       |
|---------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 46      | 0.000 | 0.000 | 0.435 | 0.000 | 0.000 | 0.613 | 1.377  | 0.906 | 0.240 | 0.249 |
| 52      | 0.806 | 0.534 | 2.599 | 1.103 | 1.574 | 2.073 | 5.588  | 5.617 | 1.326 | 1.178 |
| 43      | 0.000 | 0.000 | 0.235 | 0.127 | 0.000 | 0.049 | 0.549  | 1.258 | 0.049 | 0.000 |
| 49      | 0.566 | 0.127 | 2.332 | 0.737 | 1.348 | 1.635 | 4.993  | 4.501 | 1.058 | 0.701 |
| 44      | 2.136 | 6.906 | 4.638 | 2.817 | 1.561 | 5.503 | 8.804  | 0.000 | 3.783 | 4.119 |
| 37      | 0.000 | 0.000 | 2.035 | 0.000 | 0.624 | 1.152 | 0.000  | 0.000 | 0.000 | 0.210 |
| 42      | 0.358 | 0.392 | 1.005 | 0.000 | 0.629 | 1.152 | 2.936  | 2.471 | 0.962 | 0.020 |
| 41+71   | 0.000 | 0.061 | 1.531 | 0.000 | 0.000 | 0.000 | 2.727  | 0.000 | 0.721 | 0.000 |
| 64      | 0.548 | 0.097 | 1.779 | 0.669 | 1.505 | 1.915 | 3.408  | 4.272 | 0.706 | 0.186 |
| 40      | 0.823 | 0.000 | 7.103 | 1.579 | 3.437 | 4.371 | 13.461 | 9.166 | 2.788 | 2.109 |
| 100     | 0.000 | 1.057 | 2.267 | 0.000 | 0.000 | 0.000 | 5.376  | 4.635 | 0.515 | 0.560 |
| 63      | 0.000 | 0.000 | 0.326 | 0.044 | 0.000 | 0.126 | 0.397  | 0.285 | 0.061 | 0.000 |
| 74      | 0.430 | 0.183 | 2.505 | 0.452 | 1.160 | 0.819 | 2.875  | 2.319 | 0.657 | 0.000 |
| 70+76   | 1.933 | 0.466 | 6.352 | 1.281 | 3.054 | 2.622 | 6.925  | 5.988 | 1.947 | 1.613 |
| 66      | 2.557 | 0.471 | 9.476 | 1.989 | 4.769 | 4.001 | 10.707 | 8.822 | 2.126 | 1.913 |
| 95      | 0.680 | 0.133 | 1.134 | 0.292 | 0.591 | 0.667 | 1.868  | 1.634 | 0.511 | 0.260 |
| 91      | 0.000 | 0.219 | 0.714 | 0.000 | 0.319 | 0.351 | 0.999  | 0.810 | 0.275 | 0.000 |
| 56+60   | 0.962 | 0.401 | 6.571 | 1.376 | 3.153 | 2.690 | 7.000  | 6.097 | 1.461 | 1.270 |
| 92+84   | 0.554 | 0.201 | 1.728 | 0.418 | 0.908 | 0.971 | 2.903  | 2.379 | 0.582 | 0.365 |
| 89      | 0.350 | 0.294 | 0.142 | 0.000 | 0.082 | 0.000 | 0.242  | 0.321 | 0.368 | 0.108 |
| 101     | 0.879 | 0.589 | 2.179 | 0.635 | 1.507 | 1.440 | 3.673  | 3.431 | 1.460 | 0.595 |
| 99      | 0.778 | 1.699 | 1.423 | 0.381 | 1.059 | 1.039 | 2.520  | 2.607 | 1.933 | 0.684 |
| 119     | 0.590 | 0.000 | 2.860 | 0.000 | 1.248 | 0.391 | 4.372  | 3.353 | 0.000 | 0.000 |
| 83      | 0.038 | 0.000 | 0.211 | 0.035 | 0.095 | 0.098 | 0.302  | 0.244 | 0.046 | 0.029 |
| 97      | 0.247 | 0.085 | 1.016 | 0.231 | 0.545 | 0.505 | 1.429  | 1.224 | 0.275 | 0.176 |
| 81      | 0.000 | 0.000 | 0.529 | 0.000 | 0.258 | 0.236 | 0.670  | 0.594 | 0.046 | 0.094 |
| 87      | 0.462 | 0.193 | 1.900 | 0.400 | 0.989 | 0.952 | 2.620  | 2.180 | 0.531 | 0.374 |
| 85      | 0.275 | 0.000 | 1.227 | 0.263 | 0.682 | 0.556 | 1.674  | 1.385 | 0.306 | 0.199 |
| 77      | 0.000 | 0.000 | 2.794 | 0.143 | 1.329 | 0.458 | 2.290  | 1.831 | 0.000 | 0.000 |
| 110     | 0.970 | 0.387 | 3.360 | 0.832 | 2.095 | 1.760 | 4.744  | 3.848 | 0.894 | 0.695 |
| 82      | 0.116 | 0.000 | 0.681 | 0.136 | 0.338 | 0.291 | 0.884  | 0.698 | 0.155 | 0.098 |
| 151     | 0.268 | 0.090 | 0.818 | 0.188 | 0.462 | 0.399 | 1.131  | 1.110 | 0.262 | 0.169 |
| 135+144 | 0.140 | 0.149 | 0.657 | 0.165 | 0.370 | 0.247 | 1.054  | 0.973 | 0.213 | 0.167 |
| 107     | 0.383 | 0.000 | 4.317 | 0.699 | 1.832 | 1.489 | 4.878  | 3.497 | 0.754 | 0.230 |
| 149     | 1.073 | 0.240 | 2.534 | 0.581 | 1.510 | 1.098 | 3.445  | 3.385 | 0.905 | 0.605 |
| 118     | 0.774 | 0.264 | 2.959 | 0.330 | 1.738 | 1.085 | 3.069  | 2.710 | 0.819 | 0.629 |

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13 14 15 16 17 18 19 20 21 22 23 24

Tree Bark Data

|                        |               |               |                |               |               |               |                |                |               |               |
|------------------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|
| 134+114                | 0.977         | 2.203         | 0.536          | 0.000         | 0.470         | 0.192         | 1.080          | 0.431          | 0.077         | 1.688         |
| 146                    | 0.920         | 0.000         | 1.479          | 0.262         | 0.900         | 0.559         | 1.647          | 1.827          | 0.574         | 0.346         |
| 153++                  | 2.410         | 0.474         | 7.239          | 1.781         | 4.789         | 3.023         | 8.061          | 8.318          | 2.405         | 1.788         |
| 141                    | 0.323         | 0.135         | 0.850          | 0.164         | 0.492         | 0.324         | 0.939          | 0.896          | 0.298         | 0.082         |
| 137+176                | 0.013         | 0.000         | 0.202          | 0.000         | 0.021         | 0.000         | 0.196          | 0.112          | 0.015         | 0.020         |
| 163+138                | 1.352         | 0.539         | 4.115          | 0.939         | 2.830         | 1.717         | 4.636          | 4.214          | 1.547         | 1.179         |
| 158                    | 0.000         | 0.000         | 1.197          | 0.000         | 0.758         | 0.397         | 1.202          | 1.016          | 0.344         | 0.260         |
| 178                    | 0.142         | 0.041         | 0.437          | 0.058         | 0.248         | 0.145         | 0.404          | 0.502          | 0.179         | 0.000         |
| 187+182                | 0.855         | 0.308         | 2.552          | 0.368         | 1.587         | 0.728         | 2.043          | 2.160          | 1.152         | 0.491         |
| 183                    | 0.514         | 0.099         | 1.320          | 0.165         | 0.676         | 0.128         | 0.976          | 0.951          | 0.448         | 0.104         |
| 128                    | 0.132         | 0.011         | 0.476          | 0.088         | 0.289         | 0.139         | 0.447          | 0.393          | 0.142         | 0.097         |
| 167                    | 0.765         | 0.000         | 3.303          | 0.000         | 1.271         | 0.811         | 2.496          | 2.110          | 0.000         | 0.000         |
| 185                    | 0.058         | 0.000         | 0.241          | 0.026         | 0.117         | 0.000         | 0.176          | 0.143          | 0.000         | 0.022         |
| 174                    | 0.590         | 0.000         | 1.298          | 0.204         | 0.802         | 0.291         | 0.998          | 0.995          | 0.424         | 0.233         |
| 177                    | 0.239         | 0.000         | 0.759          | 0.116         | 0.453         | 0.100         | 0.631          | 0.411          | 0.255         | 0.144         |
| 202+171                | 0.228         | 0.033         | 1.630          | 0.067         | 0.285         | 0.135         | 0.882          | 2.119          | 0.524         | 0.098         |
| 173                    | 0.000         | 0.000         | 0.091          | 0.000         | 0.000         | 0.000         | 0.000          | 0.000          | 0.000         | 0.000         |
| 200+157                | 0.045         | 0.000         | 0.924          | 0.000         | 0.258         | 0.000         | 0.168          | 0.857          | 0.135         | 0.000         |
| 172+197                | 0.051         | 0.000         | 0.000          | 0.093         | 0.000         | 0.000         | 0.185          | 0.187          | 0.143         | 0.056         |
| 180                    | 0.840         | 0.337         | 3.070          | 0.469         | 2.097         | 0.688         | 2.188          | 1.756          | 1.048         | 0.646         |
| 193                    | 0.000         | 0.000         | 0.149          | 0.000         | 0.075         | 0.000         | 0.047          | 0.000          | 0.000         | 0.000         |
| 191                    | 0.000         | 0.000         | 0.127          | 0.000         | 0.000         | 0.000         | 0.079          | 0.000          | 0.250         | 0.000         |
| 199                    | 0.027         | 0.000         | 0.241          | 0.000         | 0.000         | 0.000         | 0.000          | 0.119          | 0.021         | 0.000         |
| 170+190                | 0.454         | 0.000         | 1.746          | 0.290         | 1.297         | 0.389         | 1.219          | 0.930          | 0.601         | 0.356         |
| 198                    | 0.000         | 0.000         | 0.268          | 0.000         | 0.000         | 0.000         | 0.072          | 0.000          | 0.077         | 0.733         |
| 201                    | 0.847         | 0.178         | 5.755          | 0.410         | 3.008         | 0.547         | 2.065          | 2.869          | 1.543         | 0.376         |
| 203+196                | 0.838         | 0.000         | 5.639          | 0.366         | 3.200         | 0.540         | 1.774          | 1.939          | 1.467         | 0.000         |
| 189                    | 0.000         | 0.000         | 0.015          | 0.000         | 0.000         | 0.000         | 0.000          | 0.000          | 0.000         | 0.000         |
| 208+195                | 0.690         | 0.000         | 4.707          | 0.573         | 2.449         | 0.788         | 2.607          | 4.165          | 1.401         | 0.000         |
| 207                    | 0.114         | 0.000         | 0.841          | 0.000         | 0.431         | 0.000         | 0.416          | 0.484          | 0.200         | 0.041         |
| 194                    | 0.164         | 0.000         | 1.123          | 0.084         | 0.716         | 0.000         | 0.318          | 0.271          | 0.315         | 0.064         |
| 206                    | 0.590         | 0.000         | 4.129          | 0.488         | 2.542         | 0.537         | 1.744          | 1.717          | 1.218         | 0.358         |
| 209                    | 0.000         | 0.000         | 0.000          | 0.000         | 0.000         | 0.000         | 0.000          | 0.000          | 0.000         | 0.000         |
| <b>TOTAL PCB, ng/g</b> | <b>40.694</b> | <b>24.372</b> | <b>165.593</b> | <b>32.025</b> | <b>84.407</b> | <b>72.756</b> | <b>204.421</b> | <b>164.314</b> | <b>62.127</b> | <b>45.702</b> |

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Tree Bark Data

|                 |        |       |        |       |       |        |        |        |        |        |
|-----------------|--------|-------|--------|-------|-------|--------|--------|--------|--------|--------|
| Other compounds |        |       |        |       |       |        |        |        |        |        |
| 1,2,3,5 T4CB    | 0.020  | 0.000 | 0.163  | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  |
| 1,2,4,5 T4CB    | 0.785  | 0.000 | 0.444  | 2.688 | 0.000 | 0.598  | 0.606  | 1.909  | 1.537  | 0.000  |
| 1,2,3,4 T4CB    | 0.067  | 0.100 | 0.074  | 0.058 | 0.134 | 0.208  | 1.215  | 0.145  | 0.242  | 0.144  |
| PentaCB         | 0.027  | 1.301 | 0.000  | 8.089 | 0.547 | 7.953  | 1.764  | 1.336  | 1.281  | 9.247  |
| HexaCB          | 0.000  | 0.000 | 0.000  | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  |
| PentaCA         | 11.882 | 6.672 | 3.635  | 2.964 | 1.901 | 6.590  | 11.044 | 6.108  | 2.849  | 3.027  |
| ppDDE           | 0.450  | 0.095 | 0.200  | 0.011 | 0.071 | 0.064  | 0.133  | 0.108  | 0.109  | 0.056  |
| Recovery data   | %      | %     | %      | %     | %     | %      | %      | %      | %      | %      |
| PCB 14          | 57.76  | 61.31 | 56.69  | 47.35 | 60.93 | 89.43  | 92.65  | 120.72 | 77.02  | 99.17  |
| PCB 65          | 82.33  | 80.13 | 82.06  | 69.06 | 87.24 | 116.53 | 123.96 | 133.21 | 94.27  | 140.98 |
| PCB 166         | 63.12  | 63.68 | 60.49  | 47.29 | 60.60 | 90.34  | 94.07  | 105.16 | 89.99  | 99.90  |
| PCB204          | 111.97 | 98.91 | 114.68 | 98.55 | 99.15 | 100.00 | 94.46  | 93.12  | 101.75 | 97.51  |

Notes:

PCB 1, 41+71, 130 and 129 were in original analysis but are not reported in all samples here due to analytical problems.

T4CB = tetrachlorobenzene

CA = chloroanisole

Values of zero were not detected.

Site details:

Stewart = 325 E. 6th St

Edwards Ave = Edwards Ave south of 202

610 Montrose = Around 610 Montrose Ave

1201 Carter = Around 1201 Carter St

Mars Hill Baptist = Behind Mars Hill Missionary Baptist Church

Greenbriar = Behind house on NW corner of Greenbriar Lane and Cloverdale Lane

Burt = Pasture behind Billy Burt's house.

Substa = Alabama Power Substation near WWTP

Treatment = On property of the Coldwater Water Treatment Plant

Sandy = Sandy Creek Road at ANAD Line

Coleman = John Coleman's house, east 22nd St.

Edgemont = Edgemont Cemetary (at about W 34th St)

Hillcrest = Hillcrest St between Tyrell St and railroad line

Cherokee = Cherokee Trail near Lenlock Lane (NW of Anniston)

Tomahawk = Behind Tomahawk Cemetary near Tomahawk Dr & Cherokee Trail (NW of Anniston)

1 214 640 3374

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Tree Bark Data

| Mars Hill Baptist<br>33-39-08<br>85-50-01 |        |        | Greenbriar Burt<br>33-37-34 33-35-49<br>85-46-30 85-50-20 |          |       | Substa<br>33-36-3<br>85-49-42 |        | Treatment<br>33-36-16<br>85-55-36 |       | Sandy<br>33-39-34<br>85-55-34 |       | Coleman<br>33-40-24<br>85-49-08 | Edgemont<br>33-41-20<br>85-49-45 | Hillcrest<br>33-43-1<br>85-49-20 |
|---|--------|--------|---|----------|-------|-------------------------------|--------|-----------------------------------|-------|-------------------------------|-------|---------------------------------|----------------------------------|----------------------------------|
| 11  | 12     | 13     | 14  | 15       | 16    | 17                            | 18     | 19                                | 20    | 21                            | 22    |                                 |                                  |                                  |
| Ash                                       | Willow | Oak    | Cherry  | Chestnut | Pecan | Ash                           | Sw Gum | Oak                               | Oak   | Magnolia                      | Oak   |                                 |                                  |                                  |
| 38.8                                      | 69     | 139    | 76  | 116      | 382   | 52                            | 265    | 254                               | 187   | 336.5                         | 181   |                                 |                                  |                                  |
| 19  | 24.9   | 25     | 25  | 25       | 25    | 20                            | 25     | 25.1                              | 25    | 25                            | 25    |                                 |                                  |                                  |
| ng/g                                      | ng/g   | ng/g   | ng/g  | ng/g     | ng/g  | ng/g                          | ng/g   | ng/g                              | ng/g  | ng/g                          | ng/g  | ng/g                            | ng/g                             | ng/g                             |
| 2.057                                     | 1.035  | 4.475  | 1.788   | 2.059    | 0.000 | 5.055                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.000                                     | 0.000  | 0.000  | 0.000   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.000                                     | 0.000  | 1.371  | 1.603   | 0.000    | 0.000 | 0.296                         | 0.051  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.091                                     | 0.000  | 0.739  | 0.368   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.062                            |
| 0.382                                     | 0.796  | 0.598  | 1.171   | 0.000    | 0.000 | 0.000                         | 1.510  | 0.253                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 3.351                                     | 7.565  | 11.599 | 11.529  | 0.566    | 0.000 | 0.646                         | 0.238  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.094                            |
| 0.000                                     | 2.149  | 2.884  | 4.506   | 0.000    | 0.000 | 0.317                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.000                                     | 0.000  | 0.000  | 0.000   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.000                                     | 0.077  | 0.000  | 0.329   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 4.177                                     | 0.000  | 29.093 | 37.097  | 0.248    | 0.251 | 0.000                         | 0.000  | 0.000                             | 0.110 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.535                            |
| 1.217                                     | 8.480  | 10.683 | 13.065  | 0.000    | 0.101 | 0.296                         | 0.130  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.131                            |
| 0.000                                     | 0.000  | 0.000  | 0.000   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.178                                     | 1.826  | 2.884  | 4.616   | 0.000    | 0.000 | 0.119                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.017                            |
| 0.459                                     | 0.000  | 0.000  | 0.000   | 0.142    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.037 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 1.651                                     | 23.387 | 36.521 | 46.110  | 0.000    | 0.246 | 0.109                         | 0.117  | 0.000                             | 0.029 | 0.050                         | 0.023 | 0.000                           | 0.000                            | 0.023                            |
| 0.000                                     | 0.141  | 0.241  | 0.503   | 0.068    | 0.000 | 0.100                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.721                                     | 0.000  | 5.830  | 8.098   | 0.000    | 0.000 | 0.267                         | 0.000  | 0.000                             | 0.000 | 0.088                         | 0.089 | 0.000                           | 0.000                            | 0.089                            |
| 0.341                                     | 1.958  | 3.229  | 4.613   | 0.000    | 0.000 | 0.133                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.012 | 0.000                           | 0.000                            | 0.012                            |
| 7.537                                     | 50.741 | 83.317 | 120.122   | 0.853    | 1.199 | 5.305                         | 0.000  | 0.000                             | 0.379 | 0.494                         | 0.990 | 0.000                           | 0.000                            | 0.990                            |
| 0.000                                     | 0.168  | 0.000  | 0.380   | 0.000    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 2.735                                     | 0.000  | 14.609 | 19.757  | 0.272    | 0.088 | 0.000                         | 0.000  | 0.000                             | 0.177 | 0.325                         | 1.189 | 0.000                           | 0.000                            | 1.189                            |
| 0.280                                     | 4.981  | 7.068  | 11.519  | 0.021    | 0.000 | 0.556                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 0.078                                     | 0.000  | 1.888  | 3.317   | 0.000    | 0.000 | 0.238                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |
| 2.409                                     | 4.615  | 28.812 | 42.368  | 0.376    | 0.000 | 0.579                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.256 | 0.000                           | 0.000                            | 0.256                            |
| 0.249                                     | 5.424  | 6.582  | 10.457  | 0.257    | 0.000 | 0.000                         | 0.000  | 0.000                             | 0.000 | 0.000                         | 0.000 | 0.000                           | 0.000                            | 0.000                            |

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Tree Bark Data



Tree Bark Data

|               |                |                 |                 |               |               |                |               |              |              |              |               |
|---------------|----------------|-----------------|-----------------|---------------|---------------|----------------|---------------|--------------|--------------|--------------|---------------|
| 0.205         | 4.713          | 3.525           | 6.754           | 0.170         | 0.000         | 0.455          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.712         | 0.000          | 6.898           | 13.139          | 0.000         | 0.438         | 1.668          | 0.239         | 0.000        | 0.000        | 0.000        | 0.439         |
| 3.507         | 50.681         | 40.288          | 74.900          | 0.373         | 2.541         | 6.671          | 0.765         | 0.185        | 0.081        | 0.345        | 1.354         |
| 0.436         | 0.000          | 3.997           | 7.491           | 0.000         | 0.000         | 0.818          | 0.105         | 0.000        | 0.000        | 0.033        | 0.147         |
| 0.084         | 0.000          | 0.718           | 1.430           | 0.000         | 0.000         | 0.102          | 0.000         | 0.000        | 0.000        | 0.000        | 0.073         |
| 2.202         | 25.407         | 19.357          | 37.856          | 0.105         | 1.176         | 4.016          | 0.442         | 0.000        | 0.067        | 0.201        | 0.938         |
| 0.522         | 7.479          | 5.322           | 10.697          | 0.000         | 0.173         | 0.785          | 0.049         | 0.000        | 0.000        | 0.000        | 0.222         |
| 0.204         | 17.987         | 14.391          | 26.578          | 0.000         | 0.000         | 4.118          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.917         | 8.018          | 6.040           | 12.098          | 0.000         | 0.360         | 1.981          | 0.091         | 0.023        | 0.027        | 0.082        | 0.272         |
| 0.511         | 4.799          | 3.158           | 6.926           | 0.000         | 0.000         | 0.783          | 0.000         | 0.000        | 0.000        | 0.000        | 0.196         |
| 0.214         | 3.163          | 1.786           | 4.398           | 0.023         | 0.000         | 0.296          | 0.016         | 0.000        | 0.000        | 0.000        | 0.090         |
| 1.363         | 20.080         | 11.311          | 24.482          | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.055         | 0.974          | 0.563           | 1.303           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.506         | 5.093          | 3.360           | 7.428           | 0.119         | 0.241         | 0.775          | 0.000         | 0.000        | 0.000        | 0.000        | 0.171         |
| 0.352         | 3.683          | 2.041           | 4.697           | 0.044         | 0.210         | 0.633          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.408         | 2.249          | 1.508           | 3.291           | 0.084         | 0.000         | 0.403          | 0.000         | 0.000        | 0.000        | 0.000        | 0.022         |
| 0.000         | 0.350          | 0.157           | 0.000           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.000         | 1.332          | 0.000           | 1.574           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.000         | 1.871          | 0.757           | 2.689           | 0.000         | 0.000         | 0.223          | 0.000         | 0.000        | 0.000        | 0.000        | 0.028         |
| 1.420         | 10.430         | 6.434           | 14.318          | 0.161         | 0.398         | 1.614          | 0.233         | 0.000        | 0.000        | 0.141        | 0.349         |
| 0.000         | 0.576          | 0.000           | 0.688           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.201         | 0.331          | 0.112           | 0.344           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.014        | 0.000        | 0.064         |
| 0.000         | 0.362          | 0.117           | 0.488           | 0.000         | 0.000         | 0.042          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.803         | 7.231          | 3.316           | 8.850           | 0.000         | 0.146         | 0.969          | 0.000         | 0.000        | 0.000        | 0.076        | 0.177         |
| 0.000         | 0.000          | 0.000           | 0.000           | 0.000         | 0.818         | 0.000          | 0.091         | 0.618        | 0.000        | 0.000        | 0.348         |
| 1.289         | 5.122          | 3.263           | 9.791           | 0.000         | 0.133         | 0.889          | 0.000         | 0.000        | 0.000        | 0.000        | 0.184         |
| 0.990         | 5.369          | 2.836           | 7.068           | 0.000         | 0.281         | 0.838          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 0.000         | 0.000          | 0.000           | 0.000           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| 1.045         | 0.000          | 0.971           | 5.631           | 0.058         | 0.193         | 0.472          | 0.000         | 0.000        | 0.000        | 0.000        | 0.164         |
| 0.160         | 0.301          | 0.000           | 0.592           | 0.039         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.013         |
| 0.243         | 1.392          | 0.512           | 1.742           | 0.231         | 0.000         | 0.214          | 0.000         | 0.000        | 0.000        | 0.000        | 0.051         |
| 0.817         | 2.342          | 0.937           | 3.184           | 0.000         | 0.000         | 0.237          | 0.000         | 0.000        | 0.000        | 0.000        | 0.106         |
| 0.000         | 0.000          | 0.000           | 0.000           | 0.000         | 0.000         | 0.000          | 0.000         | 0.000        | 0.000        | 0.000        | 0.000         |
| <b>88.804</b> | <b>926.143</b> | <b>1223.883</b> | <b>2092.584</b> | <b>10.735</b> | <b>20.464</b> | <b>113.167</b> | <b>11.744</b> | <b>2.344</b> | <b>3.082</b> | <b>5.113</b> | <b>20.473</b> |

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1 2 3 4 5 6 7 8 9 10 11 12

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Tree Bark Data

|        |       |       |        |        |        |        |        |       |        |       |        |
|--------|-------|-------|--------|--------|--------|--------|--------|-------|--------|-------|--------|
| 0.000  | 0.000 | 0.000 | 0.000  | 0.087  | 0.000  | 0.000  | 0.630  | 0.000 | 0.000  | 0.000 | 0.209  |
| 0.128  | 1.027 | 1.275 | 0.114  | 18.672 | 10.781 | 1.601  | 0.000  | 0.000 | 0.000  | 0.000 | 0.522  |
| 0.574  | 0.400 | 1.443 | 0.373  | 0.229  | 0.253  | 0.595  | 0.000  | 0.022 | 0.016  | 0.859 | 0.072  |
| 1.111  | 0.893 | 8.412 | 1.559  | 1.767  | 0.811  | 6.225  | 0.944  | 1.730 | 0.856  | 0.655 | 0.000  |
| 0.000  | 0.075 | 0.167 | 0.183  | 0.123  | 0.189  | 0.299  | 0.109  | 0.125 | 0.065  | 0.122 | 0.284  |
| 5.293  | 1.990 | 2.530 | 3.730  | 3.133  | 1.896  | 7.438  | 2.731  | 1.802 | 1.318  | 0.136 | 8.172  |
| 0.139  | 1.023 | 0.833 | 1.066  | 0.000  | 0.000  | 0.158  | 0.000  | 0.000 | 0.000  | 0.053 | 0.248  |
| %      | %     | %     | %      | %      | %      | %      | %      | %     | %      | %     | %      |
| 92.42  | 2.34  | 55.70 | 82.06  | 96.95  | 78.40  | 98.58  | 1.22   | 95.41 | 100.73 | 99.50 | 91.49  |
| 142.17 | 74.62 | 76.67 | 61.34  | 120.47 | 99.54  | 123.44 | 129.08 | 89.91 | 110.24 | 90.81 | 134.13 |
| 97.18  | 83.31 | 71.59 | 101.18 | 105.20 | 67.93  | 94.55  | 88.55  | 81.05 | 73.62  | 74.66 | 88.63  |
| 98.64  | 20.72 | 65.57 | 83.45  | 81.73  | 81.78  | 86.87  | 95.02  | 93.35 | 74.53  | 87.55 | 94.80  |

Tree Bark Data

|          |          |
|----------|----------|
| Cherokee | Tomahawk |
| 33-43-6  | 33-43-50 |
| 85-51-27 | 85-52-30 |
| 23       | 24       |
| Oak      | Catalpa  |
| 142      | 161      |
| 25       | 25       |

| ng/g  | ng/g  |
|-------|-------|
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.040 |
| 0.457 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.060 | 0.068 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.249 |
| 0.000 | 0.000 |
| 0.109 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.223 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.135 | 0.098 |
| 0.000 | 0.000 |
| 0.058 | 0.000 |
| 0.000 | 0.000 |

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Tree Bark Data

|       |       |
|-------|-------|
| 0.000 | 0.000 |
| 0.090 | 0.222 |
| 0.000 | 0.000 |
| 0.059 | 0.066 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.032 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.025 | 0.000 |
| 0.119 | 0.123 |
| 0.000 | 0.000 |
| 0.000 | 0.012 |
| 0.000 | 0.000 |
| 0.048 | 0.091 |
| 0.045 | 0.000 |
| 0.053 | 0.052 |
| 0.110 | 0.103 |
| 0.020 | 0.062 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.054 | 0.058 |
| 0.000 | 0.016 |
| 1.714 | 0.480 |
| 0.038 | 0.000 |
| 0.000 | 0.019 |
| 0.029 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.000 | 0.000 |
| 0.045 | 0.063 |

AUG 14 1998 12:25

1 215 040 2224

1000 10

Tree Bark Data

|              |              |
|--------------|--------------|
| 0.000        | 0.000        |
| 0.000        | 0.039        |
| 0.309        | 0.211        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.193        | 0.195        |
| 0.000        | 0.000        |
| 0.793        | 0.000        |
| 0.084        | 0.000        |
| 0.056        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.351        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.143        | 0.000        |
| 0.000        | 0.000        |
| 0.031        | 0.000        |
| 0.000        | 0.000        |
| 0.062        | 0.000        |
| 0.000        | 0.000        |
| 0.124        | 0.961        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.000        | 0.000        |
| 0.144        | 0.106        |
| 0.000        | 0.000        |
| <b>5.206</b> | <b>3.936</b> |

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4 215 048 7874

0000 00

Tree Bark Data

|       |        |
|-------|--------|
| 0.000 | 0.000  |
| 0.000 | 0.066  |
| 0.017 | 0.292  |
| 1.511 | 1.317  |
| 0.117 | 0.142  |
| 0.000 | 2.024  |
| 0.000 | 0.000  |
| %     | %      |
| 92.30 | 105.67 |
| 85.07 | 117.97 |
| 76.42 | 87.81  |
| 88.95 | 90.48  |